

11th Berlin Conference on Life Sciences

Novel Antimicrobials and AMR Diagnostics



2 March 2018, Fraunhofer Forum, Berlin, Germany

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Wanted: Novel Antimicrobials and AMR Diagnostics

How to bring novel antimicrobials and diagnostics from lab to market? How to finance risky clinical development? Which regulatory frameworks do exist for new antibiotics and diagnostics? Which incentives support business models best? Small and medium-sized enterprises (SMEs) constitute the major innovation engine in the AMR arena with significant pipelines of novel antimicrobials and diagnostics targeting multidrug-resistant bacteria. Although European biotech companies with AMR activities raised more than €200m in 2017, sustainable business models and market prospects are still challenging.

At the same time, a series of global initiatives were started: the Interagency Consultative Group (IACG) established by the United Nations; the Global R&D Hub resulting from the 2017 G20 summit; international multimillion-euro funding bodies such as CARB-X and the Global Antibiotic Research and Development Partnership (GARDP); the AMR Call to Action initiative, and the InnoFin Infectious Disease program financed by the European Investment Bank. These initiatives are particularly welcomed by SMEs; however, they call for implementing further supportive instruments.

Against this background, BIOCOM AG and the European SME organization BEAM Alliance are pleased to invite key players in the AMR field to join the "11th Berlin Conference on Life Sciences – Novel Antimicrobials & AMR Diagnostics" and to establish a discussion platform highlighting the challenges particularly related to SMEs.

Several sessions with 50 top-class speakers will cover all the different aspects of AMR therapeutic and diagnostics development, financing and market access. Drug developers, diagnostic experts and microbiologists from European businesses as well as researchers, entrepreneurs, market specialists, investors and start-ups will shed light on this challenging field.

BEAM Alliance Position Paper 2017

Key Guidelines to implement effective measures toward SMEs to revive the antibacterial R&D field



2017 marks the beginning of the most collective fight ever against the superbug threat. All over the world – be it on the local, the national and the international level – important initiatives have been started to address the challenge of antimicrobial resistance (AMR) and to spend substantial amounts of funding to bring forward research and development (R&D) in the field. The long-term success of these measures will depend on whether stakeholders are able to integrate the perspectives of small and medium-sized enterprises (SMEs). With the largest pipeline of innovative products, SMEs are the major innovation engine in the AMR field to provide patients with effective drugs in the fight against AMR. However, to ultimately revive antibacterial R&D, further specific support of SME-driven innovation is key.

Strong need for further action to revive antibacterial R&D

The existing initiatives demonstrate that longtime warning of microbiologists and health care professionals is now heard. From now the world is acting on many fronts. However, bacteria are evolving resistances faster than policy makers are implementing actions. Even in European and in Northern American hospitals, the rise of AMR leaves patients with no treatment option; back to the Pre-Penicillin era.

This is because of the versatile properties of bacteria to exchange genetic materials, to adapt their metabolism almost instantaneously in case of threat and to find compensatory survival mechanisms, thus easily outpacing human efforts to control them. From this background, it is of enormous importance to ultimately revive R&D in AMR by developing compelling surveillance data, encouraging out-of-the-box thinking, rewarding R&D evidence, strengthening existing scientific expertise, further developing scientific capacities and enlarging infrastructure on the national and international level. Only these strategies will provide innovative, effective and sustainable treatments for AMR patients worldwide.

New measures to support SMEs for being the crucial innovation engine in the AMR arena

Today, the antibacterial therapeutic area is recognised to be the most underserved segment of the pharmaceutical industry. Only very few large pharmaceutical corporations are actively involved in innovative R&D efforts. However, there are about 250 biotech companies worldwide who are mainly focusing on antimicrobial drug development to bring novel therapies from bench to bedside. As a matter of fact, **biotech companies constitute the crucial innovation engine in the AMR arena with the most significant pipeline of new antibiotics or novel antimicrobials as alternative treatments.**

In numbers, members of the BEAM Alliance together contribute over 120 potential new antibiotic compounds or curative and preventive technologies to this pipeline. Of these, a majority target critical pathogens as mentioned by the WHO priority list and approximately 30% investigate new mechanisms of actions or new targets, thus representing a high diversity of innovative approaches to fight AMR. The SMEs in the BEAM alliance also represented half of the signatories of the "Declaration by the Pharmaceutical, Biotechnology and Diagnostics Industries on Combating Antimicrobial Resistance" which was launched at the World Economic Forum in Davos, Switzerland, in 2016.

From a European perspective, BEAM is convinced, that a call to action from policymakers is not enough to counter act the current situation. While this certainly gives hope to all parties invested in the cause to stop superbugs, it did not reach yet the inflection point that would give the confidence to private investors to revive investment in the R&D field.

To advocate re-investing in the field, we need to implement new measures that ultimately translate into achievements for existing players in the field and inspire new ones. **BEAM members propose herein a series of guide**lines to help ensure that the current collective effort made by policymakers, foundations, international organisations and others is effectively targeting the needs of SMEs in the biotech sector.

SME-driven innovation in the AMR R&D field is key for future success. For this reason, we describe herein 10 recommendations to support our needs:

- 1. Adequately-shaped incentive mechanisms that ultimately rewards R&D evidence
- 2. Health Technology Assessment recognising the true value of SME innovation
- 3. Dedicated regulatory pathways to support the specific needs of AMR projects and act as prequalification criteria to some PUSH/PULL incentive mechanisms
- 4. PUSH incentives and funding mechanisms that are directed to SMEs, calibrated and accessible for SMEs in practice
- 5. Calibrated Market Entry Rewards (MER) to ensure continuous and sustainable innovation from academics to biotech companies and to large pharma players
- 6. R&D prizes and phase entry rewards as effective PULL mechanisms for SMEs to incentivise the most underserved indications in AMR
- 7. Targeted tax incentives specifically addressing SMEs to incentivise private investments into AMR-focused companies and/or avoid de-prioritization
- 8. Going beyond to exploit all possibilities for AMR from SMEs
- 9. Support education to strengthen attractiveness of the field for R&D professionals/scientists
- 10. Long term thinking and wisely usage of AMR innovations combined with appropriate diagnostics development

About BEAM Alliance: The BEAM Alliance (Biopharmaceutical companies from Europe innovating in Anti-Microbial resistance research) plays a key role working on a European and national level to represent the interests of its 40 members. The BEAM members are collectively developing more than 100 new compounds focused upon the cure and prevention of bacterial infections. They cover the whole range of pharmaceutical drug development from small molecule antibiotics, antibiotic combinations, phages, antibodies, prophylactic and therapeutic vaccines, peptides, prebiotics, other bioproducts, adjunctive therapies and medical devices, thus representing the large majority of all European companies actively working on AMR. The goal of the BEAM alliance is to maintain and promote awareness of SME-driven innovation in the field and to support policymakers in understanding economic business models around AMR. The BEAM Alliance closely cooperates with all stakeholders dedicated to the fight against AMR.

BEAM Alliance full members & international members*

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BEAM Alliance associated members*

Bioaster - Vivexia - Vibiosphen - AMR centre

*as of. Feb 16, 2018

www.beam-alliance.eu

Programme

Openi	ng & Plenary Session Room Spectrum	Page					
	ng Session						
8:45	Introduction						
8:50	Welcome Address Prof. Dr. Frank Emmrich, Fraunhofer Institute for Cell Therapy and Immunology IZI, DE						
9:00	Setting the scene Dr. Marc Gitzinger (session chair), Bioversys AG, CH						
Plena	ry Session						
Keync	otes						
9:10	Addressing drug-resistant infections: a global and collabor Jean-Pierre Paccaud, PhD, Global Antibiotic R&D Partnership						
9:30	Feeding the AMR pipeline through innovation – challenges Mark Jones, PhD, Basilea Pharmaceutica Ltd., CH	and solutions for European SMEs					
9:50	Replenishing and enabling the pipeline for anti-infective real Aleks Engel, PhD, Novo Holdings Repair Impact Fund, DK Prof. George E Griffin, PhD, St. George's, University of London						
10:10	The challenge of bringing successful AMR diagnostics to to Jorge Villacian, MD, Janssen Diagnostics, Janssen Pharmace						
10:30	Coffee break with posters & exhibition						
	on 1: Market access in the era of AMR – Page 14 dea to product Room Spectrum	Session 2: From basic research to market – recent academic anti-infective and diagnostis innovations Room Form					
11:00	The patent perspective: How to protect IP in a field of multiple public, private and public/private collaborations? Dr. Markus Engelhard (session chair) BOEHMERT & BOEHMERT, DE	11:00 Is AMR becoming the greatest challenge in global public health?Dr. Jan Wauters, Flanders Investment & Trade, Government Flanders, US					
11:15							
	A new breakthrough class of Gram-negative antibiotics Dr. Glenn Dale, Polyphor Ltd., CH	11:10 The value of academic research in AMR innovations Prof. Herman Goossens, MD, University of Antwerp, BE					
11:30	Dr. Glenn Dale, Polyphor Ltd., CH Panel discussion: "Efficacy evaluation for novel antimicrobial approaches: current challenges and new routes"						
11:30	Dr. Glenn Dale, Polyphor Ltd., CH Panel discussion: "Efficacy evaluation for novel antimicrobial approaches:	Prof. Herman Goossens, MD, University of Antwerp, BE 11:25 Tackling AMR via innovative natural products Prof. Dr. Rolf Müller, Helmholtz Institute/German Center for					
	Panel discussion: "Efficacy evaluation for novel antimicrobial approaches: current challenges and new routes" Dr. Nicolas Tesse (panel moderator) SEPTEOS SAS, FRE Guennaëlle Dieppois, PhD Debiopharm Int. SA, CH Dr. Glenn Dale Polyphor Ltd., CH Prof. Dr. Johan W. Mouton Erasmus University Rotterdam, NL	Prof. Herman Goossens, MD, University of Antwerp, BE 11:25 Tackling AMR via innovative natural products Prof. Dr. Rolf Müller, Helmholtz Institute/German Center for Infection Research (DZIF), DE 11:40 First clinical results of cold plasma treated chronic infected wounds Dr. Kai Masur, Leibniz Institute for Plasma Science and					
12:00	Panel discussion: "Efficacy evaluation for novel antimicrobial approaches: current challenges and new routes" Dr. Nicolas Tesse (panel moderator) SEPTEOS SAS, FRE Guennaëlle Dieppois, PhD Debiopharm Int. SA, CH Dr. Glenn Dale Polyphor Ltd., CH Prof. Dr. Johan W. Mouton Erasmus University Rotterdam, NL Accelerating diagnostics use to prevent AMR on a global level	Prof. Herman Goossens, MD, University of Antwerp, BE 11:25 Tackling AMR via innovative natural products Prof. Dr. Rolf Müller, Helmholtz Institute/German Center for Infection Research (DZIF), DE 11:40 First clinical results of cold plasma treated chronic infected wounds Dr. Kai Masur, Leibniz Institute for Plasma Science and Technology, DE 11:55 Identification of novel antimicrobials using cell-free system					
12:00	Panel discussion: "Efficacy evaluation for novel antimicrobial approaches: current challenges and new routes" Dr. Nicolas Tesse (panel moderator) SEPTEOS SAS, FRE Guennaëlle Dieppois, PhD Debiopharm Int. SA, CH Dr. Glenn Dale Polyphor Ltd., CH Prof. Dr. Johan W. Mouton Erasmus University Rotterdam, NL Accelerating diagnostics use to prevent AMR on a global level Dr. Catharina Boehme, FIND Diagnostics, CH Sustainable economic models to revitalise antibiotic development – lessons learned from DRIVE-AB Dr. Christine Årdal, Norwegian Institute of Public Health, NO	Prof. Herman Goossens, MD, University of Antwerp, BE 11:25 Tackling AMR via innovative natural products Prof. Dr. Rolf Müller, Helmholtz Institute/German Center for Infection Research (DZIF), DE 11:40 First clinical results of cold plasma treated chronic infected wounds Dr. Kai Masur, Leibniz Institute for Plasma Science and Technology, DE 11:55 Identification of novel antimicrobials using cell-free system Dr. Stefan Kubick, Fraunhofer Institute, DE 12:10 Antibiotics research at the Institut Pasteur in Paris and in the Institut Pasteur International Network					

Programme

	n 3: Technology highlights and challenges – Page 18 antimicrobials Room Spectrum	Session 4: Technology highlights and challenges – Page 19 diagnostics Room Forum
13:50	Introduction: The value of SMEs in AMR innovations Marie Petit (session chair), BEAM Alliance, FR	13:50 Platforms, biomarkers, data: an industry perspective on molecular microbiology Dr. Achim Plum, Curetis N.V., DE
14:00	Priority setting for R&D of new antibiotics – the WHO perspective Sarah Paulin, PhD, World Health Organization, CH	14:05 Bringing photonics to the clinic: concept for an user-open center for photonics in infection research Prof. Dr. Jürgen Popp, Leibniz Institute of Photonic Technology e.V., DE
14:15	Fostering investment in AMR innovation – the UNCTAD World Investment Forum 2018 Christoph Spennemann, UNCTAD, CH	14:20 Rapid tests to detect antibiotic resistance Bruce Savage, GFC Diagnostics, UK
14:30	The need for coordination: the global AMR R&D hub Andrea Spelberg, Federal Ministry of Education and Research, DE	14:35 Development of diagnostics for antimicrobial resistance – a company perspective Dr. Ralf Ehricht, Abbott (former Alere Technologies GmbH), DE
14:40	Insights into the development of anti-infective therapies in AMR dedicated SMEs in Europe	14:50 Pulse Controlled Amplification: A platform technology for ultrafast AMR diagnostics and beyond Dr. Lars Ullerich, GNA Biosolutions GmbH, DE
	The development of a synthetic branched peptide for fighting multi-resistant Gram-negative bacteria Prof. Alessandro Pini, PhD, SetLance srl, IT	15:05 Concept ≠ Technology ≠ Product. What it takes to create an actionable Dx in the fight against AMR
	Six birds by two stones – the development of ASN100, a monoclonal antibody product candidate targeting Staphylococcus aureus Zoltán Magyarics, MD, PhD, Arsanis Inc., US/AT	Kfir Oved, PhD, MD, MeMed Diagnostics Ltd
	Artilysin® – an intelligent platform technology to combat MDR pathogens Martin Grießl, Lysando AG, DE	
15:10	Leveraging technology to spur antibiotic discovery Dr. Mariana Vaschetto, Collaborative Drug Discovery Inc., UK	
15:25	Coffee break with posters & exhibition	
Closin	g Session Room Spectrum	
16:00	Start-up pitch Oppilotech Ltd, London, UK Vaxdyn S.L., Seville/Madrid, ES AGILeBiotics B.V., Groningen, NL SpinDiag GmbH, Freiburg, DE	Page 22 PhagoMed Biopharma GmbH, Vienna, AT Resistell, Basel, CH FASTinov AS, Porto, PT
16:45	Investors talk: Which business models are worth to invest? Henri-François Boedt, European Investment Bank, LU Prof. Kevin Outterson, CARB-X, US Dr. med. Beat Steffen, Novartis Venture Fund, CH Dr. Peter Jackson, AMR Centre Ltd, UK Emmanuelle Coutanceau, Novo Seeds, Novo Holdings A/S, Dk Aleks Engel, Novo Holdings Repair Impact Fund, DK	Page 26
17:15	Start-up ceremony	
17:20	Market place & networking	
10.00	End of the day	

Poster list see page 30



FRAUNHOFER GROUP FOR LIFE SCIENCES



THE FRAUNHOFER GROUP FOR LIFE SCIENCES

Fraunhofer Group for Life Sciences

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Prof. Dr. Horst-Christian Langowski

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Six Fraunhofer Institutes and a Fraunhofer research institution, each having proven in-depth expertise in different areas within the life sciences, are involved in this Group: the Fraunhofer Institutes for Biomedical Engineering IBMT, Interfacial Engineering and Biotechnology IGB, Molecular Biology and Applied Ecology IME, Toxicology and Experimental Medicine ITEM, Process Engineering and Packaging IVV, Cell Therapy and Immunology IZI, and the Fraunhofer Research Institution for Marine Biotechnology and Cell Technology EMB. Their combined knowledge of biology, chemistry, biochemistry, biotechnology, medicine, pharmacology, ecology, and nutritional science is thus pooled and synergized within this Fraunhofer Group. In all these Fraunhofer Institutions, the scientists collaborate in interdisciplinary teams, so that tailored know-how concerning information technology, engineering science, and legal requirements is also available. Research and implementation at the client's facilities therefore go hand in hand.

The Fraunhofer-Gesellschaft stands for reliable partnership in applied research. As the largest research organization of its kind in Europe, it develops market-oriented solutions tailored to the specific requirements of each client. A solid basis for this is its own pre-competitive research, geared to the basics and frequently undertaken in close cooperation with universities and other academic institutions.

One of the most important things we have learned: the path from the first idea to the perfect solution is always very exciting – and we will gladly go down this path with you.



THE SYNERGISTS

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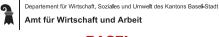








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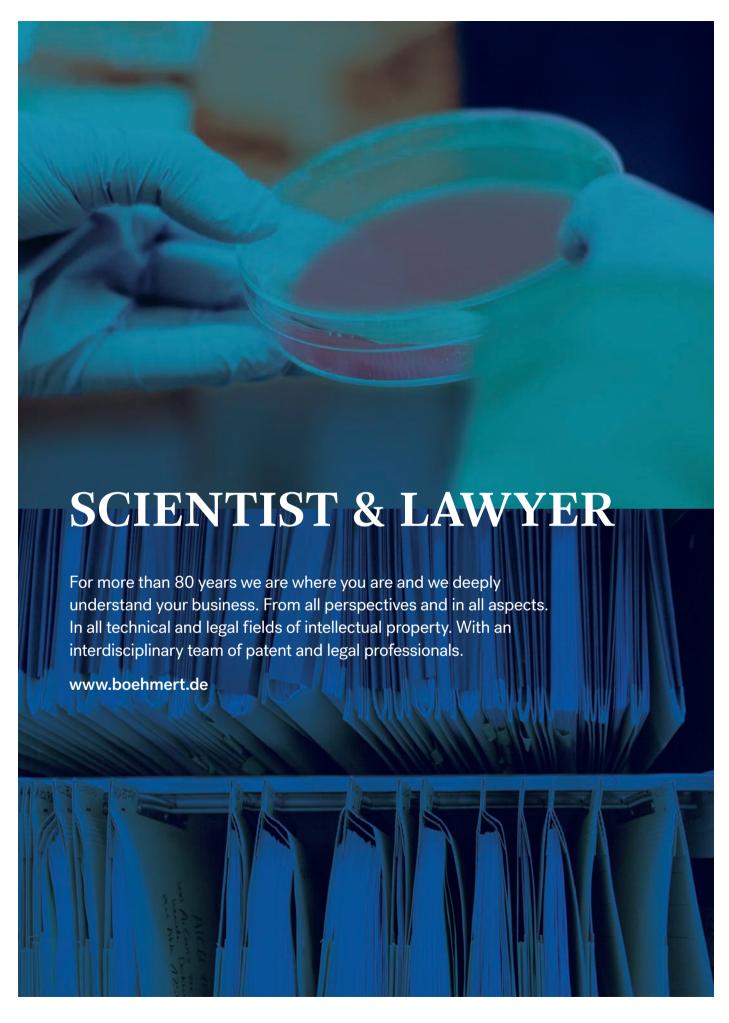






Opening & Plenary Session | Room Spectrum

Time	Title/Speaker	Contact
Opening S	ession	
8:45	Introduction	
8:50	Welcome address	
	Prof. Dr. Frank Emmrich Director Fraunhofer Institute for Cell Therapy and Immunology IZI, DE	frank.emmrich@izi.fraunhofer.de www.izi.fraunhofer.de
9:00	Setting the scene	
	Dr. Marc Gitzinger (session chair) CEO and co-founder BioVersys AG, CH	marc.gitzinger@bioversys.com www.bioversys.com
Plenary Se	ession	
Keynotes		
9:10	Addressing drug-resistant infections: a global and collaborative endeavour	
	Jean-Pierre Paccaud, PhD Director of Business Development and Corporate Strategy Global Antibiotic R&D Partnership (GARDP), CH	jppaccaud@dndi.org www.gardp.org
9:30	Feeding the AMR pipeline through innovation – challenges and solutions for E	uropean SMEs
	Mark Jones, PhD Head of Project Management and Head of PreClinical Development Basilea Pharmaceutica Ltd., CH	mark.jones@basilea.com www.basilea.com
9:50	Replenishing and enabling the pipeline for anti-infective resistance	
	Aleks Engel, PhD Partner Novo Seeds and Director Repair Impact Fund Novo Holdings Repair Impact Fund, DK	aeee@novo.dk www.novonordisk.com
	Prof. George E Griffin, PhD Chair of fund SAB Novo Holdings Repair Impact Fund & Emeritus Professor of Infectious Diseases and Medicine St George's, University of London, UK	ggriffin@sgul.ac.uk www.novonordisk.com
10:10	The challenge of bringing successful AMR diagnostics to the clinic	
	Jorge Villacian, MD CMO Janssen Diagnostics, Janssen Pharmaceutical R&D, Johnson & Johnson, BE	jvillaci@its.jnj.com www.janssen.com
10:30	Coffee break with posters & exhibition	



BALANCING GENERIC AND INNOVATIVE MEDICAL USES – A WAY OUT OF AMR?

Dr. Ute Kilger, Partner, BOEHMERT & BOEHMERT, Berlin, Germany

Antimicrobial resistance (AMR) is set to become a global threat but a new look at old drugs may help in the fight against it. In fact, recent research suggest that repurposing drugs could be the key to effectively target the rising antibiotic crisis. In November 2017, for instance, it has been discovered that a drug marketed as glatiramer acetate or Copaxone, which has been used in the treatment of multiple sclerosis for 20 years, obviously kills antibiotic-resistant bacteria. The question, however, is whether there is also a business model behind repurposing old drugs to fight AMR, i.e. whether the innovator has any chance of obtaining a return on such an investment.

Innovative pharmaceutical companies develop new drugs and invest hundreds of millions of Euros in bringing them onto the market. Return on investment is secured by market exclusivity limited to a specific period of time provided by patents and data exclusivity (no generic company can rely on the originator's clinical data for market approval). The originator therefore has time to obtain a return on investment for a limited period before the generics enter the market. This "ecosystem" works quite well for any new compound.

It does not work that well, however, for the development of known and/or marketed substances in a new medical indication – as it would be the case with repurposing old drugs in the AMR field. Substantial problems remain to be solved – problems that are not limited to the antibiotics arena. The development of a new medical use for a known marketed substance also requires substantial investment in development and clinical trials. Such an investment may be USD 0.5 billion and 5 years less than that needed for a new compound, but pharmaceutical or biotech companies cannot justify this level of expense and risk if the generic companies are also able to sell the "old" drug for the new use, leaving the originator with no chance of getting a return on its investment. This holds especially true in the field of antibiotics where the expectation is that antibiotics should be cheap.

Not solving this problem would be detrimental to mankind. It is often the case that a medically active compound is useful in several diseases. And it may well be that the second or third medical use discovered is particularly valuable, as in the case of AMR. Thus, there is a need for a regulatory and legal system that facilitates both cases – incentivizing the development of a new use and allowing the generic company to sell the drug for the patent-free old use. Substitution rules and tenders imposed by health insurers mean that pharmacists would have to dispense the cheapest (generic) medicine having the same compound without even knowing which indication it had been prescribed for, since doctors would prescribe the compound without specifying the indication. This would inevitably lead to the generic being dispensed in a manner infringing the patent, thus destroying the market and any incentives for the originator.

Denmark amended the legislation when the Danish courts ruled on such a case, involving Pregabalin, to enable a split market where both ends can be accomplished: as a generic drug for the old use and as an originator drug for the new use. Other courts in Europe, e.g. in Germany, addressed this issue by requiring that the health insurer's tender must be limited to the patent-free indication, but this proved insufficient as pharmacists still dispensed the generic drug for all uses.

This February, Georgetown University (D.C.) and Sir Robin Jacob from the UCL, London, invited think-tanks to a conference in Washington D.C. where various experts and stakeholders discussed how to achieve both ends, while considering options such as split markets. One thing, however, is very clear: this requires more than aligning the generic and innovative companies, which would be doable, it also means aligning lawmakers, politicians, and health insurers. It is neither an easy nor a popular task to explain why the same medicine should be low in price in the generic, old indication but high in price in the new indication. It is easier to say: Hauptsache günstig (the main thing is it's cheap).

The same case, the Pregabalin case, was heard very recently before the UK Supreme Court and observers stated that unfortunately the discussion focused very much on the potential deterrent effect on generics for patent-free uses and much less on the deterrent effect on innovators seeking to find new uses. If this held true, and originators stopped finding and developing new uses, it would be bad news for all of us. It is therefore to be hoped that reason will prevail and legislators will be willing to find ways to incentivize the development of new uses despite generics still being dispensed for their old use.

Session 1 | Room Spectrum

Market access in the era of AMR - from idea to product

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Time Title/Speaker Contact

11:00 The patent perspective: How to protect IP in a field of multiple public, private and public/private collaborations?



Dr. Markus Engelhard (Session Chair)
European Patent and Trademark Attorney, Pharma/Life Sciences
BOEHMERT & BOEHMERT, DE

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11:15 A new breakthrough class of Gram-negative antibiotics



Dr. Glenn Dale
Head of Antibiotic Research and Early Development
Polyphor Ltd., CH

glenn.dale@polyphor.com www.polyphor.com

11:30 Panel discussion: "Efficacy evaluation for novel antimicrobial approaches: current challenges and new routes"



Dr. Nicolas Tesse (panel moderator)Directeur Scientifique
SEPTEOS SAS, FR
nicolas.tesse@neteos-groupe.com



Dr. Glenn Dale
Head of Antibiotic Research and Early
Development
Polyphor Ltd., CH
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Guennaëlle Dieppois, PhD
Senior Scientist Antimicrobial Development
Debiopharm Int. SA, CH
guennaelle.dieppois@debiopharm.com



Prof. Dr. Johan W. Mouton
Professor for Pharmacokinetics and
Pharmacodynamics
Erasmus University Rotterdam, NL
jwmouton@gmail.com

12:00 Accelerating diagnostics use to prevent AMR on a global level



Dr. Catharina Boehme CEO FIND Diagnostics, CH

Catharina.Boehme@finddx.org www.finddx.org

Sustainable economic models to revitalise antibiotic development – lessons learned from DRIVE-AB



12:15

Dr. Christine ÅrdalSenior Advisor
Norwegian Institute of Public Health, NO

chaa@fhi.no www.fhi.no

12:30 Panel discussion: How to bring AMR innovation to the market?



Dr. Christine Årdal (panel moderator) Senior Advisor Norwegian Institute of Public Health, NO chaa@fhi.no



Ghada Zoubiane, PhD
Science Lead, Drug-Resistant Infections
Wellcome Trust, UK
G.Zoubiane@wellcome.ac.uk



Prof. Anders Karlén, PhD Leader of the managing entity of ENABLE Uppsala University, SE anders.karlen@ilk.uu.se

12:55 Lunch break with posters & exhibition

Session 2 | Room Forum
From basic research to market recent academic anti-infective and diagnostics innovations



Time	Title/Speaker	Contact
11:00	Is AMR becoming the greatest challenge in global public health?	
	Dr. Jan Wauters Science and Technology Counselor Life Sciences and Nanotechnologies Flanders Investment & Trade, Government of Flanders, US	jan.wauters@fitagency.com www.fitagency.com
11:10	The value of academic research in AMR innovations	
	Prof. Herman Goossens, MD Head of LMM, Vaccine & Infectious Disease Institute University of Antwerp, BE	Herman.Goossens@uza.be www.uantwerpen.be/en
11:25	Tackling AMR via innovative natural products	
	Prof. Dr. Rolf Müller Managing Director, Helmholtz Institute for Pharmaceutical Research (HIPS) & Coordinator "Novel Antibiotics", German Center for Infection Research (DZIF), DE	Rolf.Mueller@helmholtz-hzi.de www.helmholtz-hzi.de www.dzif.de/forschung/neue-antibiotika
11:40	First clinical results of cold plasma treated chronic infected wounds	
	Dr. Kai Masur Principal Investigator Leibniz Institute for Plasma Science and Technology, DE	kai.masur@inp-greifswald.de www.leibniz-inp.de
11:55	Identification of novel antimicrobials using cell-free systems	
	Dr. Stefan Kubick Head of Department of Cell-free and Cell-based Bioproduction Fraunhofer Institute for Cell Therapy and Immunology IZI, Branch Bioanalytics and Bioprocesses, Potsdam-Golm (IZI-BB), DE	Stefan.Kubick@izi-bb.fraunhofer.de www.izi.fraunhofer.de
12:10	Antibiotics research at the Institut Pasteur in Paris and in the Institut Pasteur International Network	
	Dr. Philippe Glaser Head of the Ecology and Evolution of Antibiotic Resistance Unit Department of Microbiology Institut Pasteur, FR	philippe.glaser@pasteur.fr https://research.pasteur.fr
12:25	Diagnostic tools to distinguish between bacterial and viral infections to reduce antibiotic abuse	
	Prof. Per Venge, MD PhD Professor in Clinical Chemistry Department of Medical Sciences Uppsala University, SE	per.venge@medsci.uu.se www.medscie.uu.se
12:40	Rapid diagnostics – from barriers to solutions for AMR	
	Dr. Till Bachmann Deputy Head of Division of Infection and Pathway Medicine Edinburgh Medical School, Biomedical Sciences	till.bachmann@ed.ac.uk
	University of Edinburgh, UK	www.ed.ac.uk/pathway-medicine

Flanders: The Life Sciences Nucleus of Western Europe



Flanders,
 a region comprising
 the northern half of Belgium,
 might be small in surface area, but
 it's home to one of the most vibrant
 life sciences ecosystems in the world.

And for good reason; Flanders' strategic
 location, vivid network of global life
 sciences players, excellent supportive
 incentives and talented workforce
 make it 'the place to be' to

An Ecosystem that Brings Life Sciences to Life

The European knowledge economy is driven in a large part by Flanders, which combines a range of government supported and private R&D platforms, scientific institutes and strategic research centres active in a range of science and technology domains.

A high level of academic-industrial collaboration in Flanders results in a dense network of human health industry players, resources and driving forces that rely on each other and build upon shared innovations. Even more, due to its knowledge economy and atmosphere of open innovation, small-scale start-ups in Flanders are able to work alongside – and compete with – global industry players.

Key Strategic Research Centres

As a strategic research centre for nanotechnology, imec is a renowned synonym for 'cutting-edge'. It plays a crucial role in the design of electronics for pharma and healthcare, focusing on technologies that steer easier diagnosis and more comprehensive treatment like labs-on-chips, neuroprobes, health wearables and more. As a pioneer in digital technologies, the centre possesses unparalleled expertise in applications revolving around health and care, including robotics, medical device optimisation, prostheses and care services planning.

Digital Domination: imec Strengthens its Pole Position

thrive in any life sciences subsector.

A new five-year agreement brings an extra EUR 29 million to imec in 2017 with the goal of keeping Flanders at the head of the medical biotech pack. Operating one of Europe's most productive start-up incubators and giving rise to 78 spin-offs in the last handful of years, imec also applies for approximately 120 science and tech patents per year.

With a dual-pronged approach that combines basic research and translational initiatives, VIB, Flanders' institute for biotechnology, is a vast source of knowledge, expertise and infrastructure relevant to pharmaceutical, agricultural and industrial applications. Its scientists are globally recognised frontrunners in their fields. VIB's 10 core facilities support research and innovation by providing highly-advanced 'omics' technologies and research capacities to external organisations and private companies.

The World's Most Fertile Soil for Bio Innovation

Founded in 1996, VIB has taken the world by storm, attracting the brightest minds in biosciences to conduct basic research with the ultimate goal of using their insights to benefit society. VIB employs approximately 1470 scientists from more than 60 countries, who have been responsible for major breakthroughs that have rocked the fields of cancer research, immunology and inflammation, neurobiology and molecular neurology, microbiology, medical biotechnology, structural biology and plant systems biology. Pioneering spin-offs, including ADX Neuroscience, Actobiotics, ThromboGenics and Formac Pharmaceuticals, have been launched by this international powerhouse of biotechnology knowledge.

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ILE-DE-FRANCE

RUHR AREA
• Luxembourg

Vienna •

Pharma-medical Collaborations in the Spotlight

World-changing ideas can't take flight in a vacuum. Interaction is always a key ingredient. As many as 77 pharma companies with locations in Flanders and Belgium as a whole channelled EUR 2.89 billion into R&D in 2016,¹ mainly through collaborations with healthcare organisations and professionals.

Home to Every Incentive for Success

Achieving sustainable growth for your pharma, biotech or biomed business is smooth sailing in Flanders thanks to the region's worldwide reputation for bright ideas – the fourth highestscoring nation in the world for innovation² and the first in Europe for cooperation between scientific institutions and SMEs.³

Flanders' R&D-friendly tax system 101

Innovation income deduction

up to **85%** of net innovation incomes exempt from corporate taxation

R&D payroll tax incentive

recover up to 80% of the withholding tax on professional income for researchers

R&D investment deduction

13.5% of the investment value (at once)
20.5% of the annual depreciation
(staggered)

Belgium/ Flanders ranks #1 for industrialacademic

linkages⁴



Did you know that researchers from Flanders...

...were the first to unravel the DNA sequence of a gene?

...developed pioneering pharmaceuticals ...were the first to use stem cells in bone marrow transplants?

...created a lab-on-a-chip for early breast cancer discovery?



Developing the next disruptive biotechnology or ground-breaking medicine? The region offers incentives that target research-heavy sectors such as pharma and biotech. The innovation income deduction renders up to 85% of a firm's net earnings from innovation tax exempt, allowing companies to reinvest the funds to fuel ongoing development

Pharma

in Flanders

#2 in Europe for number of

clinical trials per capita

Fastest clinical approval in EU

(15 days)

5% of global pharma out-

put is developed here.

Other Generous Incentives for R&D Initiatives

The investment deduction for R&D is worth 13.5% of the acquisition value or qualifying asset, or 20.5% of the depreciated amount of the investment. R&D companies are also exempt from paying 80% of the personal income withholding tax of researchers in specific scientific fields.

Got Innovation? Get in Touch with VLAIO

Flanders Innovation & Entrepreneurship (VLAIO), a governmental organisation responsible for stimulating growth, innovation and entrepreneurship, is the ideal funding partner for companies in any domain developing new products and services. Depending on the type of R&D activity and company, VLAIO offers a number of support programmes and grants that can fund up to 60% of your innovation project.

Where International Life Sciences Professionals Thrive

A broad range of fiscal advantages are offered by the Government of Flanders to expatriate employers, managers and executive personnel working in the region on a temporary basis. These include tax-free expat allowances covering living and housing costs, and unlimited tax reimbursement of moving expenses, schooling costs and more.

As previously mentioned, targeted R&D staff employment advantages can exempt companies from paying up to 80% of the payroll withholding tax of scientists and skilled technicians such as PhDs, engineers and personnel with master's degrees.

In addition to the financial and tax incentives, Flanders is a great place to live. It has an enterprising, lively atmosphere that places emphasis on art, culture and history as well as new technologies and modern pursuits. Its advanced healthcare system is comprehensive and easy to use, and its high standard of living and relatively low costs are significant draws.

Belgium (Flanders) 160.4 Netherlands 156.6 Switzerland 154.8 Iceland 146.6 Austria 129.8 Germany 129.7 UK 124 Finland 123.9 Norway 118.6 Sweden 116.4 0 50 100 150

Connect with Flanders Investment & Trade

Flanders Investment & Trade (FIT) is your source of expertise regarding every aspect of doing business in Flanders. This governmental organisation provides comprehensive support for companies seeking to invest in and source from Flanders via its 90 offices worldwide. In addition to its broad network of stakeholders, working with FIT brings companies the benefits of tailored data, business-relevant insights and expert advice tailored to their unique situation.

In partnership with VIB, VLAIO and Flanders-Bio, Flanders Investment & Trade offers the services of a skilled life sciences welcome team dedicated to providing support and guidance to foreign life sciences and biotechnology investors in Flanders.

Flanders Investment & Trade - Berlin

berlin@fitagency.com www.investinflanders.com @Flandern_DE @InvestFlanders

References

- 1. beTransparent.be
- 2. ZEW Center for European Economic Research, Innovation Indicator 2014
- 3. Innovations Indikator 2015; Bloomberg Innovation Index 2017
- 4. European Commission, European Innovation Scoreboard, 2017

Session 3 | Room Spectrum

Technology highlights and challenges – novel antimicrobials



mariana@collaborativedrug.com

www.collaborativedrug.com

Time	Title/Speaker	Contact				
13:50	Introduction: The value of SMEs in AMR innovations					
	Marie Petit (session chair) Coordinator BEAM Alliance, FR	marie.petit@beam-alliance.eu https://beam-alliance.eu				
14:00	Priority setting for R&D of new antibiotics - the WHO perspective					
	Sarah Paulin, PhD Technical Officer Innovation, Access and Use Unit Department of Essential Medicines and Health Products World Health Organization, CH	paulins@who.int www.who.int/medicines/en				
14:15	Fostering investment in AMR innovation – the UNCTAD World Investment Forum	n 2018				
	Christoph Spennemann Legal Officer and Officer-in-Charge Intellectual Property Unit, Division on Investment and Enterprise UNCTAD, CH	Christoph.Spennemann@unctad.org http://unctad.org/ddip				
14:30	The need for coordination: the global AMR R&D hub					
	Andrea Spelberg Head of Division 616 – Head of Research for Global Health Unit Federal Ministry of Education and Research, DE	Andrea.Spelberg@bmbf.bund.de www.bmbf.de				
14:40	Insights into the development of anti-infective therapies in AMR dedicated SMEs in Europe					
	The development of a synthetic branched peptide for fighting multi-resistant Gram-negative bacteria					
	Prof. Alessandro Pini, PhD CEO SetLance srl, IT	pinia@unisi.it www.setlance.com				
	Six birds by two stones – the development of ASN100, a monoclonal antibody product candidate targeting Staphylococcus aureus					
	Zoltán Magyarics, MD, PhD Medical Director Arsanis Inc., US/AT	zoltan.magyarics@arsanis.com www.arsanis.com				
	Artilysin® – an intelligent platform technology to combat MDR pathogens					
	Martin Grießl Deputy Director R&D Head of Protein Design Lysando AG, DE	martin.griessl@lisando.com www.lisando.com				
15:10	Leveraging technology to spur antibiotic discovery					
	Dr. Mariana Vaschetto	mariana@oollohorativodrug.com				

15:25 Coffee break with posters & exhibition

Head of European Operations

Collaborative Drug Discovery Inc., UK

Session 4 | Room Forum
Technology highlights and challenges – diagnostics

Time	Title/Speaker	Contact
13:50	Platforms, biomarkers, data: an industry perspective on molecular microbiology	
	Dr. Achim Plum CBO Curetis N.V., DE	achim.plum@curetis.com www.curetis.com
14:05	Bringing photonics to the clinic: concept for an user-open center for photonics in infection research	
	Prof. Dr. Jürgen Popp Managing Board, InfectoGnostics Research Campus Jena & Scientific Director, Leibniz Institute of Photonic Technology e.V., DE	juergen.popp@leibniz-ipht.de www.leibniz-ipht.de
14:20	Rapid tests to detect antibiotic resistance	
	Bruce Savage CEO GFC Diagnostics, UK	brucesavage@gfcdiagnostics.com www.gfcdiagnostics.com
14:35	Development of diagnostics for antimicrobial resistance – a company perspective	
	Dr. Ralf Ehricht Senior Principal Scientist Feasibility Studies Abbott (former Alere Technologies GmbH), DE	ralf.ehricht@alere.com www.alere-technologies.com
14:50	Pulse Controlled Amplification: A platform technology for ultrafast AMR diagnostics and beyond	
	Dr. Lars Ullerich Managing Director – Business Development GNA Biosolutions GmbH, DE	ullerich@gna-bio.com www.gna-bio.com
15:05	Concept ≠ Technology ≠ Product. What it takes to create an actionable Dx in the fight against AMR	
	Kfir Oved, PhD, MD CTO & Co-Founder MeMed Diagnostics Ltd, IL	kfiroved@me-med.com www.me-med.com
15:25	Coffee break with posters & exhibition	



From the discovery of Penicillin to the development of rapid point-of-care tests and genomic screening, the UK has always led the world in trying to better understand, detect, diagnose, treat, and control infectious diseases and the growing challenge of antimicrobial resistance (AMR).

We offer cutting-edge research and talent, established platforms for innovation and clinical trials, support for technology development and informatics capabilities, world-renowned public health and regulatory expertise and global standards, a culture of collaboration with access to partners, and a launch-pad to global markets for prevention, diagnosis, treatment and disease management.

700,000

people die each year from drug resistant diseases

Why select the UK for developing antimicrobial resistance solutions?

- A world class research base, cluster, and talent pool.
- Global leadership: The Review on Antimicrobial Resistance (AMR), commissioned in July 2014 by the UK Prime Minister made 10 recommendations to reduce over-prescribing, increase the number of new antibiotics that come to market, and build a global coalition for action on AMR.
- Financial commitment to research: The UK Government will build on its investment in AMR R&D in the coming years. It recently funded over £64m of AMR-related projects through the National Institute for Health Research and Research Council programmes. Other schemes encouraging international research collaboration include the £1bn Ross Fund to tackle malaria and infectious diseases; the £1.5bn Global Challenges Research Fund, the Fleming and Newton Funds, and the Global Antimicrobial Resistance Innovation Fund.
- A clinical trial and testbed platform through the National Health Service (NHS): The NHS is the world's largest integrated healthcare system, treating more than 60 million people, with over £1bn annual investment in a national platform for clinical research and study support service for sponsors and CROs.
- A strong industry cluster covering discovery and development of vaccines, therapeutics, diagnostics, informatics and One Health approaches (encompassing human and animal health), and a strong Clinical Research Organisation base.

National infrastructure for treatment, diagnostic and AMR systems research and development

- Genomics England, established in 2013, is currently the largest national sequencing project of its kind in the world. Public Health England has been asked to lead the infectious disease part of the 100,000 Genome Project, focussing on the application of whole genome sequencing in diseases such as tuberculosis.
- The UK is investing up to £66m in capital funding to build and establish a good manufacturing practice (GMP)capable UK National Vaccines Development and Manufacturing Centre.
- Wellcome Trust, one of the world's leading funders of biomedical R&D, supports global efforts in antimicrobial resistance through co-funding of the CARB-X scheme.
- Two National Institute for Health Research (NIHR)
 Health Protection research Units are focused on
 Healthcare Associated Infections (HCAIs) and AMR, leading
 on research to support the development of effective
 approaches to combat AMR. Also part of the NIHR, four
 Biomedical Research Centres (in Cambridge, Oxford
 and two in London linked to Imperial and University
 College London Hospitals) conduct translational research
 to transform scientific breakthroughs into life-saving
 treatments for patients.

Reducing the risks and creating an efficient route to product development

- More than 150 companies working on infection management and treatment have benefited from funding of over £58m over the last 10 years through Innovate UK, the UK's national innovation agency, with a focus on commercial translation.
- The Medicines Discovery Catapult based at Alderley Park will focus on medicines; diagnostics; biomarkers; and earlystage clinical trial support. The Catapult will serve as a community one-stop shop for all drug-based approaches.
- NIHR In vitro Diagnostics Co-operatives in London, Leeds Newcastle and Oxford support companies developing the evidence and evaluating diagnostics to support commercialisation.
- The MHRA Innovation Office, offering a single point of access for all innovative medicines and medical devices, is a key resource for all developers in the personalised medicine area.
- The Early Access to Medicines Scheme makes promising new unlicensed medicines available to UK patients at an earlier stage, especially in areas of high unmet clinical need.

The UK's Department for International Trade (DIT) is the specialist Government department that

- · helps UK-based companies access overseas markets, providing confidential advice and support necessary to assist you in achieving your export goals.
- · helps overseas companies bring their high-level investment to the UK, providing professional, personalised and practical assistance and advice.

These services are offered through DIT's extensive network of sector and market specialists both in the UK and in British embassies and diplomatic offices around the world.

For further information please contact:

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100 million deaths

Number of deaths annually by 2050 if AMR isn't addressed

\$100 trillion

Estimated lost economic output due to AMR



Closing session | Room Spectrum



Start-up pitch

The development of new therapeutics and diagnostics to combat antimicrobial resistance is more relevant today than ever before. Although the business environment is tough, start-ups in Europe advance new technologies in the field. The session will highlight seven new ventures and will discuss the topic from an investor's perspective.



Contact:
Ajay Mistry, PhD
Founder/CEO
Ajay.Mistry@oppilotech.com

Company: **Oppilotech Ltd.**Founded: **2015** Employees: **3**

Investors: Angels (small investment round in 2017)

Market: Detailed metabolic modeling, systems biology,

gram-negative outer membrane model, LPS,

phospholipids, potentiators

London Bioscience Innovation Centre 2 Royal College Street, London NW1 0NH, UK Tel: +44 788 181 1739



Contact:
Dr. Juan José Infante Viñolo
CEO
juanjo.infante@vaxdyn.com

Company: Vaxdyn S.L

Web: www.oppilotech.com

Founded: **2011** Employees: **6** Location: **Seville and Madrid**

Investors: Insynchrony ventures (Insymbiosis Group),

Dr. Francisco León, private investment group from Madrid, founding

partners, Dr. Juan J. Infante

Market: Immunotherapy, bacterial infections, prevention, safe cellular

vaccines, antimicrobial resistance, Acinetobacter baumannii

Campus Hospital Virgen del Rocío. Av. Manuel Siurot s/n

41013 Seville, ES

Tel.: +34 606660701 | Web: www.vaxdyn.com



Contact:
Dr. Andreas A. Bastian
CEO
a.a.bastian@agilebiotics.com

Company: AGILeBiotics B.V.

Founded: 2017 Employees: 3
Location: Innolab Chemie Groningen

Investors: RUG Houdstermaatschappij B.V., Hanzepoort B.V.,

Stichting Ir. G. J. Smid Fonds B.V.

Market: Reviving antibiotics, selective modification, bacterial resistance,

MDR Gram-negative infections, superbug infections

De Mudden 14

9747 AW Groningen, NL Web: https://agilebiotics.com



AGILe Biotics



Contact:
Dr. Daniel Mark
CEO

CEO Daniel.Mark@spindiag.de

Company: **SpinDiag GmbH**Founded: **2016** Employees: **8**

Location: **Freiburg**Investors: **Undisclosed**

Market: Antibiotic resistance, diagnostics, point-of-care





Contact:
Alexander Belcredi
CEO

alexander.belcredi@phagomed.com

Company: PhagoMed Biopharma GmbH

Founded: 2017

Employees: hiring to complete founding team

Location: Vienna and Berlin

Investors: Angels Investors and Family Offices

Market: Pre-clinical biotech venture focused on human phage therapy

(lead indication: periprosthetic joint infections)

Goldeggasse 6, Top 5-6,

1040 Wien, AT

Tel.: +43 676 38 11 082 Web: www.phagomed.com



Contact:
Dr. Danuta Cichocka
CEO
danuta.cichocka@resistell.com

Company: Resistell

Founded: in foundation Employees: 8 (founding team)

Location: Basel & Lausanne

Investors: -

Market: World's fastest antibiotic resistance test; Saving lives by finding

the right antibiotic on time

Basel Inkubator
Hochbergerstr. 60c
4057 Basel, CH
Tel.: +41 79 899 91 88
Web: www.resistell.com



Contact:
António Ornelas-Soares
Executive Board Member
antoniosoares@fastinov.com

Company: FASTinov AS

Founded: **2013** Employees: **5**

Location: **Porto, Portugal**

Investors: Founders - Acácio Rodrigues, Cidália Pina-Vaz, Sofia Oliveira;

Corporate Investors: Armilar Ventures P. (I-START FUND);

Busy Angels FCR (FCR Leading Ventures)

Market: AMR, antimicrobial susceptibility testing, AST/ID, flow cytometry,

antimicrobial resistance, infectious diseases, MIC

Rua Alfredo Allen n 455/461 sala 17, 4200-135 Porto, PT

Tel.: +35 1966321139 Web: www.fastinov.com



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Resistell: A revolutionary new tool in the fight against antibiotic resistance

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Resistell is pioneering a new technology that seeks to revolutionise the detection of antibiotic resistance by drastically reducing the time it takes to identify the most effective drug from days to minutes.

While conventional antibiograms require isolating the bacteria and growing a culture, Resistell uses a sensor placed inside a microfluidic chamber that detects movement of bacteria. Antibiotics are introduced into the chamber to test resistance based on nanomotion. The lack of bacterial movement instantly indicates drug susceptibility. This happens in a matter of minutes rather than days and enables doctors to choose the most effective drug right from the start and, ultimately, saving lives.

The clinical and financial impact of Resistell is huge. Quicker test results mean reduced mortality rates. The ability to identify the right drug on time leads to less severe medical effects and conditions. Fast and targeted treatment significantly reduces the costs for the entire healthcare system.

To date, Resistell has shown almost

100% accuracy

across samples.

For more information, and investors relations contact Dr Danuta Cichocka, CEO of Resistell:

Jury start-up pitch & investors talk

Time	Title/Spea		Contact
15:50		Henri-François Boedt Senior Loan Officer Growth Capital and Innovation Finance European Investment Bank, LU	h.boedt@eib.org www.eib.org/products/blending/innovfin/ products/infectious-diseases.htm
	(6.2)	Emmanuelle Coutanceau, PhD Partner Novo Holdings Repair Impact Fund, DK	ecou@novo.dk www.novo.dk
		Aleks Engel, PhD Partner Novo Seeds and Director Repair Impact Fund Novo Holdings Repair Impact Fund, DK	aeee@novo.dk www.novonordisk.com
		Dr. Peter Jackson Executive Director AMR Centre Ltd, UK	peter.jackson@amrcentre.co <mark>m</mark> www.amrcentre.com
		Prof. Kevin Outterson Executive Director CARB-X, US	mko@bu.edu www.carb-x.org
		Dr. med. Beat Steffen Principal Novartis Venture Fund, CH	beat.steffen@nvfund.com www.nvfund.com

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Poster Exhibition

Fraunhofer-Gesellschaft

German Center for Infection Research (DZIF)

DNA microarrays for the highly parallel, fast and sensitive molecular discrimination of pathogens and associated resistances

Susanne Bailer susanne.bailer@igb.fraunhofer.de

Novel approaches to mimic persistent, biofilmassociated Pseudomonas aeruginosa respiratory infection in vitro and ex vivo

Sabine Wronski sabine.wronski@item.fraunhofer.de

Rapid on-site activity test of β-lactamaseproducing bacteria Cornelia Hettrich

cornelia Hettrich cornelia.hettrich@izi-bb.fraunhofer.de

Use of antimicrobial peptides for the reduction of multi-resistant pathogenic bacteria and prevention of biofilm formation

Markus von Nickisch-Rosenegk markus.nickisch@izi-bb.fraunhofer.de

Vaccine testing and drug validation using infection mouse models

Thomas Grunwald thomas.grunwald@izi.fraunhofer.de

Fragment-based carbapenemase inhibitors Hannelore Meyer, Hannelore.Meyer@tum.de

Pre-clinical development of the antibiotic Corallopyronin A

Achim Hoerauf, achim.hoerauf@ukbonn.de

Amidochelocardin, a bioengineered atypical tetracycline with broad-spectrum antibiotic activity

Marcus Miethke, marcus.miethke@helmholtz-hzi.de

Cystobactamids – molecules derived from natural products active against multi-resistant Grampositive and Gram-negative pathogens: a journey from discovery to early pre-clinical development Katharina Rox, katharina.rox@helmholtz-hzi.de

Lead generation and optimization of PqsR antagonists for the treatment of chronic pseudomonas aeruginosa infections
Martin Empting, martin.empting@helmholtz-hzi.de

Genome-based resistance prediction of Mycobacterium tuberculosis for individualized treatment of multidrug resistant tuberculosis patients

Patrick Beckert, pbeckert@fz-borstel.de

German Center for Infection Research Timo Jäger, timo.jaeger@dzif.de,

Elisa Reimer, elisa.reimer@dzif.de



Infectognostics Research Campus Jena

SMEs

Virulence patterns of Staphylococcus aureus strains

Stefanie Deinhardt-Emmer stefanie.deinhardt-emmer@med.uni-jena.de

Polyester-based nanoparticles to overcome the obstacles of mucus and biofilms under static and dynamic fluidic conditions

Mareike Klinger-Strobel mareike.klinger-strobel@med.uni-jena.de

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Carbonmonoxid releasing nanofibers as a potential anti-biofilm treatment Mareike Klinger-Strobel

Multi-resistant Gram-negative bacteria: β-lactamases as target for rapid diagnostics Oliwia Makarewicz oliwia.makarewicz@med.uni-jena.de

Innovative tools for fast clinical diagnosis using Raman spectroscopy Karina Weber karina.weber@leibniz-ipht.de

Fast antibiotic susceptibility testing using Raman spectroscopy within microfluidic chips Astrid Tannert astrid.tannert@student.hu-berlin.de

Cold atmospheric pressure plasma as antimicrobial and its possibilities of "on spot" delivery Torsten Gerling gerling@inp-greifswald.de A novel peptide-based therapy to fight respiratory infections

Martin van Eijk m.vaneijk@pepbiotics.com

Epitope mapping workflow for vaccine develoment combining computational analyses of the pathogen genome to the PepID biopeptides expression technology
Hubert Bernauer
info@atgbiosynthetics

Development of metallo-ß-lactamase inhibitors for combination treatment of carbapenem resistant Enterobacteriaceae

Martin Everett, Marc Lemonnier
martin.everett@antabio.com

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Participants (as of 26 February 2018)

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3	Till	Bachmann	Deputy Head of Division of Infection and Pathway Medicine	University of Edinburgh	GB
4	Niv	Bachnoff	CSO	Omnix Medical	IL
5	Susanne M.	Bailer	Group Manager Infection Biology and Array Technologies	Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB	DE
6	Renate	Baker	Europe Account Manager	Collaborative Drug Discovery	GB
7	Andreas A.	Bastian	CEO	AGILeBiotics B.V.	NL
8	Maria	Bastian	CSO	AGILeBiotics B.V	NL
9	Alexandre	Batch	Global Business Development & Entrepreneurship Leader	Institut Pasteur	FR
10	Jochen	Bauer	Vice President Development Wound Care	Paul Hartmann AG	DE
11	Patrick	Beckert	Doctoral Student	Research Center Borstel	DE
12	Lüder	Behrens	European Patent and Trade Mark Attorney	Boehmert & Boehmert	DE
13	Alexander	Belcredi	Managing Director CEO	PhagoMed Biopharma GmbH	AT
14	Thierry	Bernardi	CEO	BioFilm Pharma	FR
15	Hubert S.	Bernauer	CEO	ATG:biosynthetics GmbH	DE
16	Henri-François	Boedt	Senior Loan Officer, Growth Capital and Innovation Finance	European Investment Bank	LU
17	Catharina	Boehme	CEO	FIND Diagnostics	СН
18	Katja	Boelcker	Project Manager	BIOCOM AG	DE
19	Stephan	Breitfeld	Managing Director DACH	ingeniam	DE
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