



# The road to the future: biomedical research paving the way towards precision medicine

**Conference 24-25 November 2016**

**Celebrating 15 years of Biomedical Research at Eurac**

Eurac Research, Center for Biomedicine, Bolzano-Bozen

[www.precision-medicine.org](http://www.precision-medicine.org)

*“Precision medicine is now a global agenda that might impact all of us. Many nations have begun large scale sequencing programs that are aimed at changing clinical care to make it more effective and to improve overall population health. Genome based technologies and genome derived information is accelerating our ability to understand the biology of disease, it’s diverse mechanisms, and has expanded the prospects for developing novel diagnostics and targeted therapeutics to truly make medicines more precise.”*

*Geoffrey S. Ginsburg  
Duke University USA*

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*“Today, we have the proper tools to shape prevention, diagnosis and treatment of diseases around the characteristics of an individual [...] and make precision medicine an everyday reality.”*

*Pier Giuseppe Pelicci  
European Institute of Oncology Italy*

The biomedical research community is actively applying new high-throughput technologies for molecular characterization at the individual level. These efforts enable us to learn more about disease mechanisms and to identify potential biomarkers for diagnosis, for monitoring health and disease progression and for guiding therapy. The availability of new molecular and phenotype data brings new opportunities for developing prevention and treatment strategies that take the characteristics of each individual into account. It is within our reach to turn precision medicine into a reality and improve healthcare effectiveness by assigning more specific preventive or therapeutic interventions to those individuals that are more likely to benefit.

Eurac Research is pleased to welcome you to a two day conference celebrating 15 years of biomedical research at Eurac and the 5th anniversary of the Center for Biomedicine. We are bringing together biomedical researchers, clinicians, public health professionals and industry researchers to discuss current developments in precision medicine with you and to share our experiences. Enjoy inspirational talks on biomedical research, epidemiology, genomics, molecular and cellular biology, their contributions to precision medicine and their healthcare impact.

We wish all of us two exciting days with novel input for our work.

**Roland Psenner, President Eurac Research**

**Peter P. Pramstaller, Scientific Head Center for Biomedicine**



## PROGRAM

### NOVEMBER 24TH 2016

**14:00 Welcome and Introduction**

- Roland Psenner, President Eurac Research, Bolzano, Italy
- Peter P. Pramstaller, Head of Center for Biomedicine at Eurac Research, Bolzano, Italy
- Roland Döcker, Deputy Medical Director South Tyrolean Healthcare Service, Bolzano, Italy

**14:45 Keynote address: Precision Medicine: Today and Tomorrow**

- Geoffrey Ginsburg, Duke University Schools of Medicine and Engineering, USA

**Session I: From population to patients**

**15:30 From p-values to proteins: making biological and translational sense out of human genetic data**

- Mark McCarthy, University of Oxford, UK

**16:15 Coffee break**

**16:45 Regulation of self renewal in Cancer Stem Cells**

- Pier Giuseppe Pelicci, European Institute of Oncology (IEO), Milan, Italy

**17:30 From deep phenotyping to genotyping and clinical translation: the Verona Heart Study experience**

- Domenico Girelli, University of Verona, Italy

**Aperitif**

**18:30** Eurac Research

### NOVEMBER 25TH 2016

**8:45 Keynote address: Stories of Science, cells and freedom**

- Elena Cattaneo, Department of BioSciences, Centre for Stem Cell Research, University of Milan, Italy

### Session II: Post GWAS approaches for understanding diseases

**9:30 The Role of Genome Sequencing in Precision Medicine for Rare Diseases and Cancer**

- Jenny Taylor, University of Oxford, UK

**10:15** Coffee break

**10:45 From GWAS to functional variant in the era of precision medicine**

- Karen Mohlke, University of North Carolina at Chapel Hill, USA

**11:30 Exploring the Translatome**

- Alessandro Quattrone, Centre for Integrative Biology, University of Trento, Italy

### Session III: The molecular basis of diseases

**12:15 Translational aspects of hereditary movement disorders: from genes to human cellular models**

- Christine Klein, University of Lübeck, Germany

**13:00** Lunch

**14:00 Modelling neurodegeneration: Molecular mechanisms and target discovery in Parkinson's**

- Richard Wade-Martins, University of Oxford, UK

**14:45 iPSCs as model system for inherited cardiac diseases**

- Karl-Ludwig Laugwitz, Technical University of Munich, Germany

**15:30 Genetic Engineering of Hematopoiesis to treat Human Disease**

- Luigi Naldini, San Raffaele Scientific Institute, Milan, Italy

**16:15** Coffee break

### Session IV: Impacting healthcare

**16:45 The role of biobanking in the development of precision medicine**

- Giorgio Stanta, University of Trieste, Italy

**17:30 ELSI approaches to personalised medicine: consent and involvement in next generation sequencing**

- Heidi Howard, Centre for Research Ethics and Bioethics, Uppsala University, Sweden; Eurac Center for Biomedicine, Bolzano, Italy

### Concluding remarks

**18:15** Andrew A. Hicks, Center for Biomedicine, Eurac Research, Bolzano, Italy  
Peter P. Pramstaller, Center for Biomedicine, Eurac Research, Bolzano, Italy

**18:30** End

## Conference Organizer: Center for Biomedicine, Eurac Research

The Center for Biomedicine is a biomedical research institution at Eurac Research working in close partnership with the South Tyrolean Healthcare Service. We are performing biomedical research into how the origin and the development of diseases are influenced by genetic background, by environmental factors and by individual lifestyles. Currently we are focusing our research on diseases within the broad areas of neuro, cardio and metabolic medicine, particularly considering their role in ageing. Biostatistics, Epidemiology and Bioinformatics are crucial to what we do, and in these fields we promote methodological development alongside practical application. By bringing these fields together with molecular research methods we try to consolidate medicine, biology and technology under one umbrella.

*“Clinical genomics is beginning to have a significant impact on the characterization and diagnosis of cancer, allowing stratification of patients for appropriate cancer treatment and providing information about individual response to therapies [...].”*

*Pier Giuseppe Pelicci  
European Institute of Oncology Italy*

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