

*Molecular Frontiers Symposium and Youth Forum*

# Tailored biology: *Fundamental and Medicinal Insights*

**Date:** 23–24 May 2017

**Venue:** The Beijer Hall, The Royal Swedish Academy of Sciences,  
Lilla Frescativägen 4A, Stockholm, Sweden

**Chairs:**

Professor Bengt Nordén, Chair, Molecular Frontiers Foundation Dr. Lorie Karnath  
MBA, Ph.D. (hon), Chair DAB, Molecular Frontiers Foundation

**Organization:**

Dr. Per Thorén, COO, Associate Professor Dina Petranovic, CEO Global, Molecular  
Frontiers Foundation

*The symposium is free of charge and open to the public but registration is required for all  
participants. For registration and more information please visit: [kva.se/molecular2017](http://kva.se/molecular2017)*

**Tuesday 23 May**

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**09.00 Opening address**

*Prof. Christina Moberg, President of the Royal Swedish Academy of Sciences*

**Welcome address**

*Prof. Bengt Nordén, Chairman of the Molecular Frontiers Foundation*

**09.15 Origin of life on earth and design of alternatives**

*Jack Szostak*

**10.00 Synthetic tissues**

Robert Langer

**10.45 Break**

**11.00 New enzymes by evolution**

Frances Arnold

**11.45 Lunch**

**13.30 CRISPR systems: From adaptive immunity to genome editing**

Jennifer Doudna

**14.15 Gene editing and genome engineering with CRISPR-Cas9**

Emmanuelle Charpentier

**15.00 Design and Synthesis of cells from the bottom up**

Daniel Gibson

**15.45 Break**

**16.00 Discussion in plenum with symposium co-chairs**

**17.00 End of day**

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**Wednesday 24 May**

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**09.00 Scientific wellness and healthcare**

*Leroy Hood*

**09.45 Self-replicating synthetic systems**

*Gerald Joyce*

**10.30 Break**

**10.45 Controlling metabolism:**

***From yeast to human***

*Jens B Nielsen*

**11.30 Origin of eukaryotic cell**

*Nick Lane*

**12.15 Lunch**

**13.30 Mirror-image animals - mechanical manipulation and a point mutation**

*Reiko Kuroda*

**14.15 Discussion in plenum with symposium co-chairs**

**15.15 Outreach activities of Molecular Frontiers**

*Per Thorén, COO, Molecular Frontiers*

**15.30 Conclusions and symposium closure**

*Bengt Nordén*

**16.00 End of symposium**

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