

Mo 14. January 2019  
Time: 16:30 h

Departement of  
Chemistry and  
Biochemistry (DCB)  
Freiestr. 3, 3012 Bern  
Room EG 16

Everybody is welcome

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Gail Robertson  
is Professor at the Dept.  
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This lecture is hosted by  
Prof. Hugues Abriel  
(IBMM) and co-  
organised with the  
NCCR RNA&Disease

# NCCR TransCure Lecture in Biology by Gail Robertson

## Cotranslational Regulation of Excitability in the Heart

Even small perturbations of ion currents in cardiomyocytes can result in arrhythmia and sudden death, but how cardiac cells coordinate expression of different ion channels is unknown. We have discovered that mRNA transcripts encoding different ion channels are associated in complexes during protein translation, and these transcripts are subject to co-regulation in a way that alters surface expression of multiple channel types. We have used electrophysiology of heterologously and natively expressed ion channels in concert with biochemical and single-molecule fluorescence approaches to support these findings. The association and coordinate regulation of transcripts that encode ion channels may represent a general mechanism controlling electrical activity in excitable cells.