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## Kort præsentation

In the viral recombination area, I completed studies unravelling the mechanisms of recombination in HIV and their interplay with selective pressure on the viral population. In addition, I contributed significantly to developing systems for the study of HCV recombination, revealing this virus capability for high frequency recombination. I had a major role in developing microscopy and bioinformatics systems to image and track HIV viral particles in real-time, which also allowed my investigations in HCV packaging and subcellular interactions. I also participated in collaborative studies investigating drug resistance development and neutralization of HCV in cell culture systems. More recently, I contributed microscopy data and analyses to studies of the novel SARS-CoV-2 pathogen. I have recently initiated cell culture based studies of HBV biology, including replication, antiviral resistance, and viral clearance.

## Ansættelse

**Lektor**  
Virology  
Københavns Universitet  
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1 mar. 2019 → nu

## Publikationer

### **Differential activity of nucleotide analogs against tick-borne encephalitis and yellow fever viruses in human cell lines**

Binderup, A., Galli, Andrea, Fossat, Nicolas Julien, Fernandez-Antunez, C., Mikkelsen, L. S., Rivera, Lizandro, Scheel, Troels Kasper Høyer, Fahnøe, Ulrik, Bukh, Jens & Ramirez, S., 2023, I: *Virology*. 585, s. 179-185 7 s.

### **Mechanisms and Consequences of Genetic Variation in Hepatitis C Virus (HCV)**

Galli, Andrea & Bukh, Jens, 2023, *Viral Fitness and Evolution: Population Dynamics and Adaptive Mechanisms*. Springer, s. 237-264 28 s. (Current Topics in Microbiology and Immunology, Bind 439).

### **High recombination rate of hepatitis C virus revealed by a green fluorescent protein reconstitution cell system**

Galli, Andrea, Fahnøe, Ulrik & Bukh, Jens, 2022, I: *Virus Evolution*. 8, 1, veab106.

### **Versatile SARS-CoV-2 Reverse-Genetics Systems for the Study of Antiviral Resistance and Replication**

Fahnøe, Ulrik, Pham, Long, Fernandez-Antunez, C., Costa, Rui, Rivera, Lizandro, Galli, Andrea, Feng, S., Mikkelsen, L. S., Gottwein, Judith Margarete, Scheel, Troels Kasper Høyer, Ramirez Almeida, Santseharay & Bukh, Jens, 2022, I: *Viruses*. 14, 2, 172.

### **Efficacy of ion-channel inhibitors amantadine, memantine and rimantadine for the treatment of SARS-CoV-2 in vitro**

Zhou, Y., Gammeltoft, Karen Anbro, Galli, Andrea, Offersgaard, Anna Falden, Fahnøe, Ulrik, Ramirez Almeida, Santseharay, Bukh, Jens & Gottwein, Judith Margarete, 2021, I: *Viruses*. 13, 10, 2082.

### **Hepatitis C Virus Protease Inhibitors Show Differential Efficacy and Interactions with Remdesivir for Treatment of SARS-CoV-2 in Vitro**

Gammeltoft, Karen Anbro, Zhou, Y., Duarte Hernandez, C. R., Galli, Andrea, Offersgaard, Anna Falden, Costa, Rui, Pham, Long, Fahnøe, Ulrik, Feng, S., Scheel, Troels Kasper Høyer, Ramirez Almeida, Santseharay, Bukh, Jens & Gottwein, Judith Margarete, 2021, I: *Antimicrobial Agents and Chemotherapy*. 65, 9, e02680-20.

**Lipid Droplets Accumulation during Hepatitis C Virus Infection in Cell-Culture Varies among Genotype 1-3 Strains and Does Not Correlate with Virus Replication**

Galli, Andrea, Ramirez Almeida, Santseharay & Bukh, Jens, 2021, I: Viruses. 13, 3, 389.

**Overcoming culture restriction for SARS-CoV-2 in human cells facilitates the screening of compounds inhibiting viral replication**

Ramirez Almeida, Santseharay, Fernandez-Antunez, C., Galli, Andrea, Underwood, Alexander Paul James, Pham, Long, Ryberg, Line Abildgaard, Feng, S., Pedersen, M. S., Mikkelsen, L. S., Belouzard, S., Dubuisson, J., Sølund, C., Weis, Nina, Gottwein, Judith Margarete, Fahnøe, Ulrik & Bukh, Jens, 2021, I: Antimicrobial Agents and Chemotherapy. 65, 7, 20 s., e00097-21.

**Mutations Identified in the Hepatitis C Virus (HCV) Polymerase of Patients with Chronic HCV Treated with Ribavirin Cause Resistance and Affect Viral Replication Fidelity**

Mejer, N., Fahnøe, Ulrik, Galli, Andrea, Ramirez Almeida, Santseharay, Weiland, O., Benfield, Thomas & Bukh, Jens, 2020, I: Antimicrobial Agents and Chemotherapy. 64, 12

**Ribavirin inhibition of cell-culture infectious hepatitis C genotype 1-3 viruses is strain-dependent**

Mejer, N., Galli, Andrea, Ramirez Almeida, Santseharay, Fahnøe, Ulrik, Benfield, Thomas & Bukh, Jens, 2020, I: Virology. 540, s. 132-140 9 s.

**Hepatitis C Virus–Escape Studies for Human Monoclonal Antibody AR4A Reveal Isolate-Specific Resistance and a High Barrier to Resistance**

Velázquez-moctezuma, R., Galli, Andrea, Law, M., Bukh, Jens & Prentø, Jannick, 2019, I: The Journal of Infectious Diseases. 219, 1, s. 68-79

**Hepatitis C virus escape studies of human antibody AR3a reveal a high barrier to resistance and novel insights on viral antibody evasion mechanisms**

Velázquez-Moctezuma, R., Galli, Andrea, Law, M., Bukh, Jens & Prentø, Jannick, 2019, I: Journal of Virology. 93, 4, 27 s., e0190918.

**Hypervariable region 1 and N-linked glycans of hepatitis C regulate virion neutralization by modulating envelope conformations**

Prentø, Jannick, Velázquez-Moctezuma, R., Augestad, E. H., Galli, Andrea, Wang, R., Law, M., Alter, H. & Bukh, Jens, 2019, I: Proceedings of the National Academy of Sciences of the United States of America. 116, 20, s. 10039-10047 9 s.

**Antiviral Effect of Ribavirin against HCV Associated with Increased Frequency of G-to-A and C-to-U Transitions in Infectious Cell Culture Model**

Galli, Andrea, Mens, H., Gottwein, Judith Margarete, Gerstoft, Jan & Bukh, Jens, 2018, I: Scientific Reports. 8, 1, 13 s., 4619.

**Ribavirin-induced mutagenesis across the complete open reading frame of hepatitis C virus genotypes 1a and 3a**

Mejer, N., Fahnøe, Ulrik, Galli, Andrea, Ramirez Almeida, Santseharay, Benfield, Thomas & Bukh, Jens, 2018, I: Journal of General Virology. 99, 8, s. 1066-1077 12 s., 001095.

**Interactions between HIV-1 Gag and viral RNA genome enhance virion assembly**

Dilley, K. A., Nikolaitchik, O. A., Galli, Andrea, Burdick, R. C., Levine, L., Li, K., Rein, A., Pathak, V. K. & Hu, W. S., 1 aug. 2017, I: Journal of Virology. 91, 16, e02319-16.

**Cytoplasmic HIV-1 RNA is mainly transported by diffusion in the presence or absence of Gag protein**

Chen, J., Grunwald, D., Sardo, L., Galli, Andrea, Plisov, S., Nikolaitchik, O. A., Chen, D., Lockett, S., Larson, D. R., Pathak, V. K. & Hu, W. S., 17 nov. 2014, I: Proceedings of the National Academy of Sciences of the United States of America. 111, 48, s. E5205-E5213

**Determining the frequency and mechanisms of HIV-1 and HIV-2 RNA copackaging by single-virion analysis**

Dilley, K. A., Ni, N., Nikolaitchik, O. A., Chen, J., Galli, Andrea & Hu, W. S., okt. 2011, I: Journal of Virology. 85, 20, s. 10499-10508 10 s.

**Mechanisms and factors that influence high frequency retroviral recombination**

Delviks-Frankenberry, K., Galli, Andrea, Nikolaitchik, O., Mens, H., Pathak, V. K. & Hu, W. S., sep. 2011, I: *Viruses*. 3, 9, s. 1650-1680 31 s.

**Mechanisms of human immunodeficiency virus type 2 RNA Packaging: Efficient trans packaging and selection of RNA copackaging partners**

Ni, N., Nikolaitchik, O. A., Dilley, K. A., Chen, J., Galli, Andrea, Fu, W., Prasad, V. V. S. P., Ptak, R. G., Pathak, V. K. & Hu, W. S., aug. 2011, I: *Journal of Virology*. 85, 15, s. 7603-7612 10 s.

**Multiple barriers to recombination between divergent HIV-1 variants revealed by a dual-marker recombination assay**

Nikolaitchik, O. A., Galli, Andrea, Moore, M. D., Pathak, V. K. & Hu, W. S., 8 apr. 2011, I: *Journal of Molecular Biology*. 407, 4, s. 521-531 11 s.

**Patterns of human immunodeficiency virus type 1 recombination ex vivo provide evidence for coadaptation of distant sites, resulting in purifying selection for intersubtype recombinants during replication**

Galli, Andrea, Kearney, M., Nikolaitchik, O. A., Yu, S., Chin, M. P. S., Maldarelli, F., Coffin, J. M., Pathak, V. K. & Hu, W. S., aug. 2010, I: *Journal of Virology*. 84, 15, s. 7651-7661 11 s.

**Delineation of the preferences and requirements of the human immunodeficiency virus type 1 dimerization initiation signal by using an in vivo cell-based selection approach**

Hussein, I. T. M., Ni, N., Galli, Andrea, Chen, J., Moore, M. D. & Hu, W. S., jul. 2010, I: *Journal of Virology*. 84, 13, s. 6866-6875 10 s.

**Recombination analysis and structure prediction show correlation between breakpoint clusters and RNA hairpins in the pol gene of human immunodeficiency virus type 1 unique recombinant forms**

Galli, Andrea, Lai, A., Corvasce, S., Saladini, F., Riva, C., Dehò, L., Caramma, I., Franzetti, M., Romano, L., Galli, M., Zazzi, M. & Balotta, C., 2008, I: *Journal of General Virology*. 89, 12, s. 3119-3125 7 s.

**Evidence of differential selection of HIV-1 variants carrying drug-resistant mutations in seroconverters**

Corvasce, S., Violin, M., Romano, L., Razzolini, F., Vicenti, I., Galli, Andrea, Duca, P., Caramma, I., Balotta, C. & Zazzi, M., 2006, I: *Antiviral Therapy*. 11, 3, s. 329-334 6 s.