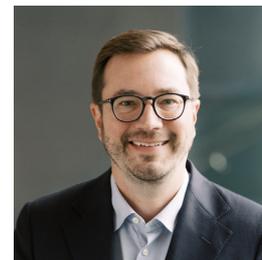


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Curriculum vitae

Positions of trust at external institutions

Board Member, Biocenter Finland

Member of Advisory Committee, worldwide Protein Data Bank (wwPDB)

Member of the Scientific Advisory Committee, Molecular and Cellular Structure cluster, EMBL-EBI

Positions of trust at the University of Helsinki

Viikki Campus Cooperation Committee, deputy member

Member of HiLIFE management team

Member of Thriving Nature (PROFI5) steering group

Member of UHBRAIN (PROFI6) steering group

Qualifications

Title of Associate Professor, University of Oxford
Award Date: 26 Mar 2015

Title of Docent in Molecular Virology, University of Helsinki
Award Date: 13 May 2014

Title of University Research Lecturer, University of Oxford
Award Date: 1 Jan 2014

Genetics, Doctor of Philosophy (PhD), University of Helsinki
Award Date: 25 Jan 2006

Genetics, Master of Science (MSc), University of Helsinki
Award Date: 23 Feb 2001

Employment

Director

Institute of Biotechnology
University of Helsinki
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1 Sept 2020 → present

Professor

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Honorary Visiting Research Fellow

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Principal Investigator

University of Oxford

Oxford, United Kingdom

1 Jan 2015 → 31 Mar 2020

Academy of Finland Research Fellow

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Oxford, United Kingdom

1 Jan 2010 → 31 Dec 2014

Research outputs

Folding of mRNA-DNA Origami for Controlled Translation and Viral Vector Packaging

Seitz, I., Saarinen, S., Wierzchowiecka, J., Kumpula, E.-P., Shen, B., Cornelissen, J. J. L. M., Linko, V., Huiskonen, J. T. & Kostiaainen, M. A., 27 Feb 2025, In: *Advanced Materials*. 15 p.

Immunogenic recombinant Mayaro virus-like particles present natively assembled glycoprotein

Kim, Y. C., Watanabe, Y., Arlen-Celina, L., Song, X., Souza, R. D. O., Stass, R., Azar, S. R., Rossi, S. L., Claser, C., Kuemmerer, B. M., Crispin, M., Bowden, T. A., Huiskonen, J. T. & Reyes-Sandoval, A., 17 Dec 2024, In: *npj vaccines*. 9, 1, 13 p., 243.

Structural characterization and epitope mapping of the AAVX affinity purification ligand

Mietzsch, M., Kamat, M., Basso, K., Chipman, P., Huiskonen, J. T. & McKenna, R., 12 Dec 2024, In: *Molecular therapy- Methods & clinical development*. 32, 4, 5 p., 101377.

The Structure of Spiroplasma Virus 4: Exploring the Capsid Diversity of the Microviridae

Mietzsch, M., Kailasan, S., Bennett, A., Chipman, P., Fane, B., Huiskonen, J. T., Clarke, I. N. & McKenna, R., Jul 2024, In: *Viruses*. 16, 7, 17 p., 1103.

Community recommendations on cryoEM data archiving and validation

Kleywegt, G. J., Adams, P. D., Butcher, S. J., Lawson, C., Rohou, A., Rosenthal, P. B., Subramaniam, S., Topf, M., Abbott, S., Baldwin, P. R., Berrisford, J. M., Bricogne, G., Choudhary, P., Croll, T. I., Danev, R., Ganesan, S. J., Grant, T., Gutmanas, A., Henderson, R. & Heymann, J. B. & 27 others, Huiskonen, J. T., Istrate, A., Kato, T., Lander, G. C., Lok, S.-M., Ludtke, S. J., Murshudov, G. N., Pye, R., Pintilie, G. D., Richardson, J. S., Sachse, C., Salih, O., Scheres, S. H. W., Schroeder, G. F., Sorzano, C. O. S., Stagg, S. M., Wang, Z., Warshamanage, R., Westbrook, J. D., Winn, M. D., Young, J. Y., Burley, S. K., Hoch, J. C., Kurisu, G., Morris, K., Patwardhan, A. & Velankar, S., Mar 2024, In: *IUCrJ*. 11, Part 2, p. 140-151 12 p.

Nanobody engineering for SARS-CoV-2 neutralization and detection

Hannula, L., Kuivanen, S., Lasham, J., Kant, R., Kareinen, L., Bogacheva, M., Strandin, T., Sironen, T., Hepojoki, J., Sharma, V., Saviranta, P., Kipar, A., Vapalahti, O., Huiskonen, J. T. & Rissanen, I., Feb 2024, In: *Microbiology Spectrum*. 12, 4, 18 p., e0419922.

Structure and interactions of the endogenous human Commander complex

Laulumaa, S., Kumpula, E. P., Huiskonen, J. T. & Varjosalo, M., 2024, In: *Nature Structural and Molecular Biology*. 31, p. 925-938 13 p.

Molecular view of ER membrane remodeling by the Sec61/TRAP translocon

Karki, S., Javanainen, M., Rehan, S., Tranter, D., Kellosoalo, J., Huiskonen, J., Happonen, L. J. & Paavilainen, V., 20 Nov 2023, In: EMBO Reports. 24, 16 p., e57910.

DNA-origami-directed virus capsid polymorphism

Seitz, I., Saarinen, S., Kumpula, E. P., McNeale, D., Anaya-Plaza, E., Lampinen, V., Hytönen, V. P., Sainsbury, F., Cornelissen, J. J. L. M., Linko, V., Huiskonen, J. T. & Kostianen, M. A., Oct 2023, In: Nature Nanotechnology. 18, 10, p. 1205–1212

Global analysis of aging-related protein structural changes uncovers enzyme-polymerization-based control of longevity

Paukštytė, J., López Cabezas, R. M., Feng, Y., Tong, K., Schnyder, D., Elomaa, E., Gregorova, P., Doudin, M., Särkkä, M., Sarameri, J., Lippi, A., Vihinen, H., Juutila, J., Nieminen, A., Törönen, P., Holm, L., Jokitalo, E., Krisko, A., Huiskonen, J. & Sarin, L. P. & 4 others, Hietakangas, V., Picotti, P., Barral, Y. & Saarikangas, J., 21 Sept 2023, In: Molecular Cell. 83, 18, p. 3360-3376

Intranasal trimeric sherpabody inhibits SARS-CoV-2 including recent immunoevasive Omicron subvariants

Mäkelä, A. R., Ugurlu, H., Hannula, L., Kant, R., Salminen, P., Fagerlund, R., Mäki, S., Haveri, A., Strandin, T., Kareinen, L., Hepojoki, J., Kuivanen, S., Levanov, L., Pasternack, A., Naves, R. A., Ritvos, O., Österlund, P., Sironen, T., Vapalahti, O. & Kipar, A. & 3 others, Huiskonen, J. T., Rissanen, I. & Saksela, K., 24 Mar 2023, In: Nature Communications. 14, 1, 12 p., 1637.

MANF regulates neuronal survival and UPR through its ER-located receptor IRE1 α

Kovaleva, V., Yu, L.-Y., Ivanova, L., Shpironok, O., Nam, J., Eesmaa, A., Kumpula, E.-P., Sakson, S., Toots, U., Ustav, M., Huiskonen, J. T., Voutilainen, M. H., Lindholm, P., Karelson, M. & Saarma, M., 28 Feb 2023, In: Cell Reports. 42, 2, 31 p., 112066.

Structural basis underlying specific biochemical activities of non-muscle tropomyosin isoforms

Selvaraj, M., Kokate, S. B., Reggiano, G., Kogan, K., Kotila, T., Kremneva, E., DiMaio, F., Lappalainen, P. & Huiskonen, J. T., 31 Jan 2023, In: Cell Reports. 42, 1, 15 p., 111900.

Proteiinien rakennemuutosten kartoittaminen paljastaa, miten solut ikääntyvät

Paukštytė, J., López Cabezas, R. M., Feng, Y., Tong, K., Schnyder, D., Elomaa, E., Gregorova, P., Doudin, M., Särkkä, M., Sarameri, J., Lippi, A., Vihinen, H., Juutila, J., Nieminen, A., Törönen, P., Holm, L., Jokitalo, E., Krisko, A., Huiskonen, J. & Sarin, L. P. & 4 others, Hietakangas, V., Picotti, P., Barral, Y. & Saarikangas, J., 2023, In: Duodecim. 139, 19, p. 1575 1 p.

Signal peptide mimicry primes Sec61 for client-selective inhibition

Rehan, S., Tranter, D., Sharp, P. P. P., Craven, G. B. B., Lowe, E., Anderl, J. L. L., Muchamuel, T., Abrishami, V., Kuivanen, S., Wenzell, N. A. A., Jennings, A., Kalyanaraman, C., Strandin, T., Javanainen, M., Vapalahti, O., Jacobson, M. P. P., McMinn, D., Kirk, C. J., Huiskonen, J. T. & Taunton, J. & 1 others, Paavilainen, V. O., 2023, In: Nature Chemical Biology. 19, p. 1054–1062 27 p.

Cryo-EM structure of ssDNA bacteriophage Φ CjT23 provides insight into early virus evolution

Kejzar, N., Laanto, E., Rissanen, I., Abrishami, V., Selvaraj, M., Moineau, S., Ravantti, J., Sundberg, L. R. & Huiskonen, J. T., Dec 2022, In: Nature Communications. 13, 7478.

Mechanistic Insights into the Activation of Lecithin-Cholesterol Acyltransferase in Therapeutic Nanodiscs Composed of Apolipoprotein A-I Mimetic Peptides and Phospholipids

Giorgi, L., Niemelä, A., Kumpula, E.-P., Natri, O., Parkkila, P., Huiskonen, J. T. & Koivuniemi, A., 7 Nov 2022, In: Molecular Pharmaceutics. 19, 11, p. 4135-4148 14 p.

Structural basis of rapid actin dynamics in the evolutionarily divergent Leishmania parasite

Kotila, T., Wioland, H., Selvaraj, M., Kogan, K., Antenucci, L., Jegou, A., Huiskonen, J. T., Romet-Lemonne, G. & Lappalainen, P., 15 Jun 2022, In: Nature Communications. 13, 1, 18 p., 3442.

Snapshots of actin and tubulin folding inside the TRiC chaperonin

Kelly, J. J., Tranter, D., Pardon, E., Chi, G., Kramer, H., Happonen, L., Knee, K. M., Janz, J. M., Steyaert, J., Bulawa, C., Paavilainen, V. O., Huiskonen, J. T. & Yue, W. W., May 2022, In: *Nature Structural and Molecular Biology*. 29, p. 420–429 24 p.

Structure of a Cell Entry Defective Human Adenovirus Provides Insights into Precursor Proteins and Capsid Maturation: Cryo-EM structure of ts1 virion of an adenovirus

Yu, X., Mullen, T. M., Abrishami, V., Huiskonen, J. T., Nemerow, G. R. & Reddy, V. S., 30 Jan 2022, In: *Journal of Molecular Biology*. 434, 2, 13 p., 167350.

Localized reconstruction in Scipion expedites the analysis of symmetry mismatches in cryo-EM data

Abrishami, V., Ilca, S. L., Gómez-Blanco, J., Rissanen, I., de la Rosa-Trevín, J. M., Reddy, V. S., Carazo, J. M. & Huiskonen, J. T., Mar 2021, In: *Progress in Biophysics & Molecular Biology*. 160, p. 43-52 10 p.

Structural Basis for a Neutralizing Antibody Response Elicited by a Recombinant Hantaan Virus Gn Immunogen

Rissanen, I., Krumm, S. A., Stass, R., Whitaker, A., Voss, J. E., Bruce, E. A., Rothenberger, S., Kunz, S., Burton, D. R., Huiskonen, J. T., Botten, J. W., Bowden, T. A. & Doores, K. J., 2021, In: *mBio*. 12, 4, 15 p., 02531.

Molecular rationale for antibody-mediated targeting of the hantavirus fusion glycoprotein

Rissanen, I., Stass, R., Krumm, S. A., Seow, J., Hulswit, R. J. G., Paesen, G. C., Hepojoki, J., Vapalahti, O., Lundkvist, Å., Reynard, O., Volchkov, V., Doores, K. J., Huiskonen, J. T. & Bowden, T. A., 22 Dec 2020, In: *eLife*. 9, 23 p., 58242.

The Hantavirus Surface Glycoprotein Lattice and Its Fusion Control Mechanism

Serris, A., Stass, R., Bignon, E. A., Muena, N. A., Manuguerra, J.-C., Jangra, R. K., Li, S., Chandran, K., Tischler, N. D., Huiskonen, J. T., Rey, F. A. & Guardado-Calvo, P., 15 Oct 2020, In: *Cell*. 183, 2, p. 442-456e16 31 p.

Assessment of Immunogenicity and Efficacy of a Zika Vaccine Using Modified Vaccinia Ankara Virus as Carriers.

López-Camacho, C., Kim, Y. C., Abbink, P., Larocca, R. A., Huiskonen, J. T., Barouch, D. H. & Reyes-Sandoval, A., 2 Nov 2019, In: *Pathogens*. 8, 4, 11 p., E216.

The structural basis of lipid scrambling and inactivation in the endoplasmic reticulum scramblase TMEM16K

Bushell, S. R., Pike, A. C. W., Falzone, M. E., Rorsman, N. J. G., Ta, C. M., Corey, R. A., Newport, T. D., Christianson, J. C., Scofano, L. F., Shintre, C. A., Tessitore, A., Chu, A., Wang, Q., Shrestha, L., Mukhopadhyay, S. M. M., Love, J. D., Burgess-Brown, N. A., Sitsapesan, R., Stansfeld, P. J. & Huiskonen, J. T. & 3 others, Tammaro, P., Accardi, A. & Carpenter, E. P., 2 Sept 2019, In: *Nature Communications*. 10, 16 p., 3956.

Structures of enveloped virions determined by cryogenic electron microscopy and tomography: Advances in Virus Research

Stass, R., Ng, W. M., Kim, Y. C. & Huiskonen, J. T., 1 Aug 2019, *Complementary Strategies to Study Virus Structure and Function*. Rey, F. A. (ed.). Academic Press, Vol. 105. p. 35-71 37 p. (Advances in Virus Research).

Multiple liquid crystalline geometries of highly compacted nucleic acid in a dsRNA virus

Ilca, S., Sun, X., El Omari, K., Kotecha, A., Haas, F. D., DiMaio, F., Grimes, J. M., Stuart, D. I., Poranen, M. M. & Huiskonen, J. T., 13 Jun 2019, In: *Nature*. 570, p. 252-+.

Assessment of Immunogenicity and Neutralisation Efficacy of Viral-Vectored Vaccines Against Chikungunya Virus

Lopez-Camacho, C., Kim, Y. C., Blight, J., Moreli, M. L., Montoya-Diaz, E., Huiskonen, J. T., Kuemmerer, B. M. & Reyes-Sandoval, A., Apr 2019, In: *Viruses (Basel)*. 11, 4, 17 p., 322.

Assembly of complex viruses exemplified by a halophilic euryarchaeal virus

De Colibus, L., Roine, E., Walter, T. S., Ilca, S. L., Wang, X., Wang, N., Roseman, A. M., Bamford, D., Huiskonen, J. T. & Stuart, D., 29 Mar 2019, In: *Nature Communications*. 10, 9 p., 1456.

The structure of a prokaryotic viral envelope protein expands the landscape of membrane fusion proteins

El Omari, K., Li, S., Kotecha, A., Walter, T. S., Bignon, E., Harlos, K., Somerharju, P., Haas, F. D., Clare, D., Molin, M., Hurtado, F., Li, M., Grimes, J. M., Bamford, D. H., Tischler, N. D., Huiskonen, J. T., Stuart, D. I. & Roine, E., 19 Feb 2019, In: *Nature Communications*. 10, 11 p., 846.

Understanding the structure and role of DNA-PK in NHEJ: How X-ray diffraction and cryo-EM contribute in complementary ways.

Wu, Q., Liang, S., Ochi, T., Chirgadze, D. Y., Huiskonen, J. T. & Blundell, T. L., 20 Jan 2019, (E-pub ahead of print) In: *Progress in Biophysics & Molecular Biology*.

A Protective Monoclonal Antibody Targets a Site of Vulnerability on the Surface of Rift Valley Fever Virus

Allen, E. R., Krumm, S. A., Raghvani, J., Halldorsson, S., Elliott, A., Graham, V. A., Koudriakova, E., Harlos, K., Wright, D., Warimwe, G. M., Brennan, B., Huiskonen, J. T., Dowall, S. D., Elliott, R. M., Pybus, O. G., Burton, D. R., Hewson, R., Doores, K. J. & Bowden, T. A., 26 Dec 2018, In: *Cell Reports*. 25, 13, p. 3750-+ 13 p.

Characterization of a potent and highly unusual minimally enhancing antibody directed against dengue virus

Renner, M., Flanagan, A., Dejnirattisai, W., Puttikhunt, C., Kasinrerak, W., Supasa, P., Wongwiwat, W., Chawansuntati, K., Duangchinda, T., Cowper, A., Midgley, C. M., Malasit, P., Huiskonen, J. T., Mongkolsapaya, J., Screaton, G. R. & Grimes, J. M., Nov 2018, In: *Nature immunology*. 19, 11, p. 1248-+ 13 p.

Beyond structures of highly symmetric purified viral capsids by cryo-EM

Stass, R., Ilca, S. L. & Huiskonen, J. T., Oct 2018, In: *Current Opinion in Structural Biology*. 52, p. 25-31 7 p.

Structure of the Lassa virus glycan shield provides a model for immunological resistance

Watanabe, Y., Raghvani, J., Allen, J. D., Seabright, G. E., Li, S., Moser, F., Huiskonen, J. T., Strecker, T., Bowden, T. A. & Crispin, M., 10 Jul 2018, In: *Proceedings of the National Academy of Sciences of the United States of America*. 115, 28, p. 7320-7325 6 p.

Mycobacterium tuberculosis CarD, an essential global transcriptional regulator forms amyloid-like fibrils

Kaur, G., Kaundal, S., Kapoor, S., Grimes, J. M., Huiskonen, J. T. & Thakur, K. G., 4 Jul 2018, In: *Scientific Reports*. 8, 13 p., 10124.

Image processing for cryogenic transmission electron microscopy of symmetry-mismatched complexes

Huiskonen, J. T., 27 Apr 2018, In: *Bioscience Reports*. 38, 2, 13 p., 20170203.

Towards in cellulose virus crystallography

Duyvesteyn, H. M. E., Ginn, H. M., Pietila, M. K., Wagner, A., Hattne, J., Grimes, J. M., Hirvonen, E., Evans, G., Parsy, M.-L., Sauter, N. K., Brewster, A. S., Huiskonen, J. T., Stuart, D. I., Sutton, G. & Bamford, D. H., 28 Feb 2018, In: *Scientific Reports*. 8, 7 p., 3771.

Shielding and activation of a viral membrane fusion protein

Halldorsson, S., Li, S., Li, M., Harlos, K., Bowden, T. A. & Huiskonen, J. T., 24 Jan 2018, In: *Nature Communications*. 9, 1, 9 p., 349.

Dual Role of a Viral Polymerase in Viral Genome Replication and Particle Self-Assembly

Sun, X., Ilca, S. L., Huiskonen, J. T. & Poranen, M. M., 2018, In: *mBio*. 9, 5, 14 p., ARTN e01242-18.

Unique architecture of thermophilic archaeal virus APBV1 and its genome packaging

Ptchelkine, D., Gillum, A., Mochizuki, T., Lucas-Staat, S., Liu, Y., Krupovic, M., Phillips, S. E. V., Prangishvili, D. & Huiskonen, J. T., 10 Nov 2017, In: *Nature Communications*. 8, 6 p., 1436.

Structural Transitions of the Conserved and Metastable Hantaviral Glycoprotein Envelope

Rissanen, I., Stass, R., Zeltina, A., Li, S., Hepojoki, J., Harlos, K., Gilbert, R. J. C., Huiskonen, J. T. & Bowden, T. A., Nov 2017, In: *Journal of Virology*. 91, 21, 11 p., UNSP e00378-17.

Structures of foot and mouth disease virus pentamers: Insight into capsid dissociation and unexpected pentamer reassociation

Malik, N., Kotecha, A., Gold, S., Asfor, A., Ren, J., Huiskonen, J. T., Tuthill, T. J., Fry, E. E. & Stuart, D. I., Sept 2017, In: PLoS Pathogens. 13, 9, 14 p., 1006607.

Virus found in a boreal lake links ssDNA and dsDNA viruses

Laanto, E., Mantynen, S., De Colibus, L., Marjakangas, J., Gillum, A., Stuart, D. I., Ravantti, J. J., Huiskonen, J. T. & Sundberg, L.-R., 1 Aug 2017, In: Proceedings of the National Academy of Sciences of the United States of America. 114, 31, p. 8378-8383 6 p.

Building bridges between cellular and molecular structural biology

Patwardhan, A., Brandt, R., Butcher, S. J., Collinson, L., Gault, D., Grunewald, K., Hecksel, C., Huiskonen, J. T., Iudin, A., Jones, M. L., Korir, P. K., Koster, A. J., Lagerstedt, I., Lawson, C. L., Mastronarde, D., McCormick, M., Parkinson, H., Rosenthal, P. B., Saalfeld, S. & Saibil, H. R. & 7 others, Sarntivijai, S., Valero, I. S., Subramaniam, S., Swedlow, J. R., Tudose, I., Winn, M. & Kleywegt, G. J., 6 Jul 2017, In: eLife. 6, 11 p., 25835.

Rules of engagement between alpha v beta 6 integrin and foot-and-mouth disease virus

Kotecha, A., Wang, Q., Dong, X., Ilca, S. L., Ondiviela, M., Zihe, R., Seago, J., Charleston, B., Fry, E. E., Abrescia, N. G. A., Springer, T. A., Huiskonen, J. T. & Stuart, D. I., 23 May 2017, In: Nature Communications. 8, 8 p., 15408.

Near-atomic structure of Japanese encephalitis virus reveals critical determinants of virulence and stability

Wang, X., Li, S.-H., Zhu, L., Nian, Q.-G., Yuan, S., Gao, Q., Hu, Z., Ye, Q., Li, X.-F., Xie, D.-Y., Shaw, N., Wang, J., Walter, T. S., Huiskonen, J. T., Fry, E. E., Qin, C.-F., Stuart, D. I. & Rao, Z., 26 Apr 2017, In: Nature Communications. 8, 9 p., 14.

Double-stranded RNA virus outer shell assembly by bona fide domain-swapping

Sun, Z., El Omari, K., Sun, X., Ilca, S., Kotecha, A., Stuart, D., Poranen, M. M. & Huiskonen, J. T., Mar 2017, In: Nature Communications. 8, p. 14814

Molecular insights into lipid-assisted Ca²⁺ regulation of the TRP channel Polycystin-2

Wilkes, M., Madej, M. G., Kreuter, L., Rhinow, D., Heinz, V., De Sanctis, S., Ruppel, S., Richter, R. M., Joos, F., Grieben, M., Pike, A. C. W., Huiskonen, J. T., Carpenter, E. P., Kuhlbrandt, W., Witzgall, R. & Ziegler, C., Feb 2017, In: Nature Structural and Molecular Biology. 24, 2, p. 123-+ 10 p.

Structure of the polycystic kidney disease TRP channel Polycystin-2 (PC2)

Grieben, M., Pike, A. C. W., Shintre, C. A., Venturi, E., El-Ajouz, S., Tessitore, A., Shrestha, L., Mukhopadhyay, S., Mahajan, P., Chalk, R., Burgess-Brown, N. A., Sitsapesan, R., Huiskonen, J. T. & Carpenter, E. P., Feb 2017, In: Nature Structural and Molecular Biology. 24, 2, p. 114-+ 12 p.

Structure of a phleboviral envelope glycoprotein reveals a consolidated model of membrane fusion

Halldorsson, S., Behrens, A.-J., Harlos, K., Huiskonen, J. T., Elliott, R. M., Crispin, M., Brennan, B. & Bowden, T. A., 28 Jun 2016, In: Proceedings of the National Academy of Sciences of the United States of America. 113, 26, p. 7154-7159 6 p.

Editorial overview: Virus structure and assembly: Virions - from structure and physics to design principles

Zlotnick, A. & Huiskonen, J. T., Jun 2016, In: Current opinion in virology. 18, p. VII-VIII 2 p.

A Molecular-Level Account of the Antigenic Hantaviral Surface

Li, S., Rissanen, I., Zeltina, A., Hepojoki, J., Raghwani, J., Harlos, K., Pybus, O. G., Huiskonen, J. T. & Bowden, T. A., 3 May 2016, In: Cell Reports. 15, 5, p. 959-967 9 p.

Low pH and Anionic Lipid-dependent Fusion of Uukuniemi Phlebovirus to Liposomes

Bitto, D., Halldorsson, S., Caputo, A. & Huiskonen, J. T., 18 Mar 2016, In: Journal of Biological Chemistry. 291, 12, p. 6412-6422 11 p.

Nucleocapsid assembly in pneumoviruses is regulated by conformational switching of the N protein
Renner, M., Bertinelli, M., Leyrat, C., Paesen, G. C., de Oliveira, L. F. S., Huiskonen, J. T. & Grimes, J. M., 15 Feb 2016, In: *eLife*. 5, 12 p., 12627.

Acidic pH-Induced Conformations and LAMP1 Binding of the Lassa Virus Glycoprotein Spike
Li, S., Sun, Z., Pryce, R., Parsy, M.-L., Fehling, S. K., Schlie, K., Siebert, C. A., Garten, W., Bowden, T. A., Strecker, T. & Huiskonen, J. T., Feb 2016, In: *PLoS Pathogens*. 12, 2, 18 p., 1005418.

Localized reconstruction of subunits from electron cryomicroscopy images of macromolecular complexes

Ilca, S. L., Kotecha, A., Sun, X., Poranen, M. M., Stuart, D. I. & Huiskonen, J. T., 4 Nov 2015, In: *Nature Communications*. 6, 8 p., 8843.

Structure-based energetics of protein interfaces guides foot-and-mouth disease virus vaccine design

Kotecha, A., Seago, J., Scott, K., Burman, A., Loureiro, S., Ren, J., Porta, C., Ginn, H. M., Jackson, T., Perez-Martin, E., Siebert, C. A., Paul, G., Huiskonen, J. T., Jones, I. M., Esnouf, R. M., Fry, E. E., Maree, F. F., Charleston, B. & Stuart, D. I., Oct 2015, In: *Nature Structural and Molecular Biology*. 22, 10, p. 788-794 7 p.

Structure of the bacteriophage phi6 nucleocapsid solved to 3.9 angstrom resolution using electron cryomicroscopy

Sun, Z., Sun, X., Ilca, S., De Colibus, L., Stuart, D. I., Poranen, M. M. & Huiskonen, J. T., Jul 2015, In: *The FEBS Journal*. 282, S1, p. 51-52 2 p.

Determination of N-linked Glycosylation in Viral Glycoproteins by Negative Ion Mass Spectrometry and Ion Mobility.

Bitto, D., Harvey, D. J., Halldorsson, S., Doores, K. J., Pritchard, L. K., Huiskonen, J. T., Bowden, T. A. & Crispin, M., 2015, In: *Methods in molecular biology*. 1331, p. 93-121 29 p.

Averaging of Viral Envelope Glycoprotein Spikes from Electron Cryotomography Reconstructions using Jsubtomo

Huiskonen, J. T., Parsy, M.-L., Li, S., Bitto, D., Renner, M. & Bowden, T. A., Oct 2014, In: *Journal of Visualized Experiments*. 92, 11 p., 51714.

Uukuniemi Phlebovirus Assembly and Secretion Leave a Functional Imprint on the Virion Glycome

Crispin, M., Harvey, D. J., Bitto, D., Halldorsson, S., Bonomelli, C., Edgeworth, M., Scrivens, J. H., Huiskonen, J. T. & Bowden, T. A., Sept 2014, In: *Journal of Virology*. 88, 17, p. 10244-10251 8 p.

Drastic changes in conformational dynamics of the antiterminator M2-1 regulate transcription efficiency in Pneumovirinae
Leyrat, C., Renner, M., Harlos, K., Huiskonen, J. T. & Grimes, J. M., 19 May 2014, In: *eLife*. 3, 43 p., 02674.

Structural Plasticity of the Semliki Forest Virus Glycome upon Interspecies Transmission

Crispin, M., Harvey, D. J., Bitto, D., Bonomelli, C., Edgeworth, M., Scrivens, J. H., Huiskonen, J. T. & Bowden, T. A., Mar 2014, In: *Journal of Proteome Research*. 13, 3, p. 1702-1712 11 p.

Structure and Self-Assembly of the Calcium Binding Matrix Protein of Human Metapneumovirus

Leyrat, C., Renner, M., Harlos, K., Huiskonen, J. T. & Grimes, J. M., 7 Jan 2014, In: *Structure*. 22, 1, p. 136-148 13 p.

Crystal Structure of Venezuelan Hemorrhagic Fever Virus Fusion Glycoprotein Reveals a Class 1 Postfusion Architecture with Extensive Glycosylation

Parsy, M.-L., Harlos, K., Huiskonen, J. T. & Bowden, T. A., Dec 2013, In: *Journal of Virology*. 87, 23, p. 13070-13075 6 p.

Isolation and characterization of the positive-sense replicative intermediate of a negative-strand RNA virus

York, A., Hengrung, N., Vreede, F. T., Huiskonen, J. T. & Fodor, E., 5 Nov 2013, In: *Proceedings of the National Academy of Sciences of the United States of America*. 110, 45, p. E4238-E4245 8 p.

The Structure of Herpesvirus Fusion Glycoprotein B-Bilayer Complex Reveals the Protein-Membrane and Lateral Protein-Protein Interaction

Maurer, U. E., Zeev-Ben-Mordehai, T., Pandurangan, A. P., Cairns, T. M., Hannah, B. P., Whitbeck, J. C., Eisenberg, R. J., Cohen, G. H., Topf, M., Huiskonen, J. T. & Gruenewald, K., 6 Aug 2013, In: *Structure*. 21, 8, p. 1396-1405 10 p.

Orthobunyavirus Ultrastructure and the Curious Tripodal Glycoprotein Spike

Bowden, T. A., Bitto, D., McLees, A., Yeromonahos, C., Elliott, R. M. & Huiskonen, J. T., May 2013, In: *PLoS Pathogens*. 9, 5, 10 p., 1003374.

Snapshot of virus evolution in hypersaline environments from the characterization of a membrane-containing *Salisaeta* icosahedral phage 1

Aalto, A. P., Bitto, D., Ravantti, J., Bamford, D., Huiskonen, J. T. & Oksanen, H., 2012, In: *Proceedings of the National Academy of Sciences of the United States of America*. 109, 18, p. 7079-7084 6 p.

Cryo Electron Tomography of Herpes Simplex Virus during Axonal Transport and Secondary Envelopment in Primary Neurons

Ibiricu, I., Huiskonen, J. T., Doehner, K., Bradke, F., Sodeik, B. & Gruenewald, K., Dec 2011, In: *PLoS Pathogens*. 7, 12, 11 p., 1002406.

Eisosome proteins assemble into a membrane scaffold

Karotki, L., Huiskonen, J. T., Stefan, C. J., Ziolkowska, N. E., Roth, R., Surma, M. A., Krogan, N. J., Emr, S. D., Heuser, J., Gruenewald, K. & Walther, T. C., 28 Nov 2011, In: *Journal of Cell Biology*. 195, 5, p. 889-902 14 p.

Eisosome-driven plasma membrane organization is mediated by BAR domains

Ziolkowska, N. E., Karotki, L., Rehman, M., Huiskonen, J. T. & Walther, T. C., Jul 2011, In: *Nature Structural and Molecular Biology*. 18, 7, p. 854-856 3 p.

Electron cryotomography of measles virus reveals how matrix protein coats the ribonucleocapsid within intact virions

Liljeroos, L., Huiskonen, J. T., Ora, A., Susi, P. & Butcher, S. J., 2011, In: *Proceedings of the National Academy of Sciences of the United States of America*. 108, 44, p. 18085-18090 6 p.

Electron Cryotomography of Tula Hantavirus Suggests a Unique Assembly Paradigm for Enveloped Viruses

Huiskonen, J. T., Hepojoki, J., Laurinmaki, P., Vaheri, A., Lankinen, H., Butcher, S. J. & Gruenewald, K., 2010, In: *Journal of Virology*. 84, 10, p. 4889-4897 9 p.

Efficient production of Rift Valley fever virus-like particles: the antiviral protein MxA can inhibit primary transcription of bunyaviruses

Habjan, M., Penski, N., Wagner, V., Spiegel, M., Överby, A. K., Kochs, G., Huiskonen, J. T. & Weber, F., 2009, In: *Virology*. 385, p. 400-408 9 p.

Electron cryo-microscopy and single-particle averaging of Rift Valley fever virus: evidence for G_N-G_C glycoprotein heterodimers

Huiskonen, J. T., Överby, A. K., Weber, F. & Gruenewald, K., 2009, In: *Journal of Virology*. 83, 18, p. 3762-3769 8 p.

Insights into bunyavirus architecture from electron cryotomography of Uukuniemi virus

Överby, A. K., Pettersson, R. F., Gruenewald, K. & Huiskonen, J. T., 2008, In: *Proceedings of the National Academy of Sciences of the United States of America*. 105, 7, p. 2375-2379 5 p.

Electron cryomicroscopy comparison of the architectures of the enveloped bacteriophages [phi]6 and [phi]8

Jääliñoja, H. T., Huiskonen, J. T. & Butcher, S. J., 2007, In: *Structure*. 15, p. 157-167 11 p.

Membrane-containing viruses with icosahedrally symmetric capsids

Huiskonen, J. T. & Butcher, S. J., 2007, In: *Current Opinion in Structural Biology*. 17, p. 229-236 8 p.

Structure of a hexameric RNA packaging motor in a viral polymerase complex

Huiskonen, J. T., Jääliñoja, H. T., Briggs, J. A. G., Fuller, S. D. & Butcher, S. J., 2007, In: *Journal of Structural Biology*. 158, p. 156-164 9 p.

Tale of two spikes in bacteriophage PRD1

Huiskonen, J. T., Manole, V. & Butcher, S. J., 2007, In: Proceedings of the National Academy of Sciences of the United States of America. 104, 16, p. 6666-6671 6 p.

Structure of the bacteriophage phi6 nucleocapsid suggests a mechanism for sequential RNA packaging

Huiskonen, J. T., Haas, F. D., Bubeck, D., Bamford, D. H., Fuller, S. D. & Butcher, S. J., 2006, In: Structure. 14, p. 1039-1048 10 p.

Classification and three-dimensional reconstruction of unevenly distributed or symmetry mismatched features of icosahedral particles

Briggs, J. A. G., Huiskonen, J. T., Fernando, K. V., Gilbert, R. J. C., Scotti, P., Butcher, S. J. & Fuller, S. D., 2005, In: Journal of Structural Biology. 150, p. 332-339 8 p.

Membrane proteins modulate the bilayer curvature in the bacterial virus Bam35

Laurinmäki, P. A., Huiskonen, J. T., Bamford, D. H. & Butcher, S. J., 2005, In: Structure. 13, 12, p. 1819-1828 10 p.

Structure and assembly of membrane-containing dsDNA bacteriophages

Huiskonen, J. T., 2005, Helsinki: University of Helsinki, Institute of Biotechnology etc. 59 p.

The structure of the bacteriophage PRD1 spike sheds light on the evolution of viral capsid architecture

Merckel, M. C., Huiskonen, J. T., Bamford, D. H., Goldman, A. & Tuma, R., 2005, In: Molecular Cell. 18, 2, p. 161-170 10 p.

The PM2 virion has a novel organization with an internal membrane and pentameric receptor binding spikes

Huiskonen, J. T., Kivelä, H. M., Bamford, D. H. & Butcher, S. J., 2004, In: Nature Structural and Molecular Biology. 11, p. 850-856 7 p.

Probing the ability of the coat and vertex protein of the membrane-containing bacteriophage PRD1 to display a meningococcal epitope

Huiskonen, J. T., Laakkonen, L., Toropainen, M., Sarvas, M., Bamford, D. H. & Bamford, J. K. H., 2003, In: Virology. 310, 2, p. 267-279 13 p.

Minor proteins, mobile arms and membrane-capsid interactions in the bacteriophage PRD1 capsid

San Martin, C., Huiskonen, J. T., Bamford, J. K. H., Butcher, S. J., Fuller, S. D., Bamford, D. H. & Burnett, R. M., 2002, In: Nature Structural and Molecular Biology. 9, 10, p. 756-763 8 p.

Activities

Towards structures of endogenous complexes by cryo-EM

Huiskonen, J. (Keynote speaker)

17 Oct 2021

Towards Cryo-EM Structures of Endogenous Complexes

Huiskonen, J. (Speaker)

22 Jan 2020

Advances of Cryo-EM in Understanding Macromolecular Structure and Function

Huiskonen, J. (Speaker)

29 Nov 2019

Exploring the glycoprotein surface of bunyaviruses

Huiskonen, J. (Keynote speaker)

1 Oct 2019

HiLIFE Symposium: Exploring Cellular Complexity by Cryo-EM

Huiskonen, J. (Chair)
28 Feb 2019

Activation of a viral membrane fusion protein

Huiskonen, J. (Invited speaker)
11 Dec 2018

Viral dsRNA genome organisation revealed by cryoEM

Huiskonen, J. (Invited speaker)
11 Dec 2018

Shielding and Activation of a Viral Membrane Fusion Protein

Huiskonen, J. (Invited speaker)
25 Jun 2018

EMBO Workshop Membrane Fusion in Health and Disease

Huiskonen, J. (Scientific Committee Member)
24 Jun 2018

Shielding and activation of viral membrane fusion proteins

Huiskonen, J. (Invited speaker)
27 Feb 2018

Shielding and Activation of a Viral Membrane Fusion Protein

Huiskonen, J. (Invited speaker)
19 Feb 2018

Insight into viral class II membrane fusion activation by a combined structural biology approach

Huiskonen, J. (Invited speaker)
20 Nov 2017

Insight into Rift Valley fever virus membrane fusion activation by a combined structural biology approach

Huiskonen, J. (Invited speaker)
8 Sept 2017

Cryo-EM Structure of the TRP channel PC2 involved in Polycystic Kidney Disease

Huiskonen, J. (Keynote speaker)
7 Jun 2017

Current opinion in virology (Journal)

Huiskonen, J. (Editor) & Zlotnick, A. (Editor)
Jun 2016

Projects

A plasmid goes viral: Understanding the origin and evolution of viruses by studying a newly discovered virus-like element

Huiskonen, J. (Project manager), Castro, B. (Participant), Eshriew, E. K. (Participant), Jayachandran, R. B. (Participant) & Song, X. (Participant)

VolkswagenStiftung

01/01/2021 → 31/12/2023

EndoGap: Architecture of Endogenous Gap Junctions

Huiskonen, J. (Project manager) & Eshriew, E. K. (Participant)
Sigrid Juséliuksen Säätiö @003701165704@
01/05/2019 → 31/12/2023

BIZEB: Bio-Imaging of Zoonotic and Emerging Bunyaviruses

Huiskonen, J. (Project manager)
European Commission / Horizon 2020
01/04/2015 → 31/03/2020

Center of Excellence in Virus Research (CoE_VIRRES)

Bamford, D. H. (Principal Investigator), Bamford, J. (Participant), Butcher, S. (Principal Investigator), Oksanen, H. M. (Principal Investigator), Poranen, M. (Principal Investigator), Roine, E. (Principal Investigator), Kainov, D. (Principal Investigator), Tuma, R. (Participant), Ravantti, J. (Participant), Huiskonen, J. (Participant), Jääliñoja, H. (Participant), Ora, A. (Participant), Hattula, K. (Participant), Ziedaite, G. (Participant), Romanovskaya, A. (Participant), Lisal, J. (Participant), Buivydas, A. (Participant), Redder, P. (Participant), Domanska, A. (Participant), Vilen, S. (Participant), Manole, V. (Participant), Happonen, L. (Participant), Seitsonen, J. (Participant), Liljeroos, L. (Participant), Suchanova, B. (Participant), Falck, S. (Participant), Daugelavicius, R. (Participant), Golubtsov, A. (Participant), Yuan, P. (Participant), Anastasina, M. (Participant), Karhu, N. J. (Participant), Koivunen, M. (Participant), Laurinavicius, S. (Participant), Wallin, A. (Participant), Aalto, A. P. (Participant), Sarin, P. (Participant), Atanasova, N. (Participant), Sun, X. (Participant), Pietilä, M. (Participant), Krupovic, M. (Participant), Cvirkaitė-Krupovic, V. (Participant), Kukkaro, P. (Participant) & Pirttimaa, M. (Participant)
25/02/2011 → 31/12/2016

ResponseHD: Chaperonin response to protein misfolding in neurodegenerative disease

Huiskonen, J. (Project manager), Castro, B. (Participant), Ghanem, M. (Participant) & Kumpula, E.-P. T. (Participant)
Academy of Finland
01/09/2022 → 31/08/2026

ConnexinCode: Cracking the Connexin code – rules of engagement between Gap junction forming proteins

Huiskonen, J. (Project manager), Eshriew, E. K. (Participant), Green, M. (Participant) & Saavalainen, A. (Participant)
Sigrid Juséliuksen Säätiö @003701165704@
01/05/2022 → 30/04/2025

Huiskonen BF 2025-26

Huiskonen, J. (Project manager), Kousar, A. (Participant), Lu, X. (Participant) & Mäkelä, T. V. (Participant)
Innovaatorahoituskeskus Business Finland (FinELib)
01/01/2025 → 31/12/2026

Huiskonen BF 25-26

Huiskonen, J. (Project manager)
Business Finland Oy
01/01/2025 → 01/01/2025

Huiskonen Erkko 2024-2027

Huiskonen, J. (Project manager), Poranen, M. (Project manager), Eshriew, E. K. (Participant), Sah Teli, S. K. (Participant), Song, X. (Participant) & Sun, X. (Participant)
Jane ja Aatos Erkon säätiö
01/11/2024 → 31/10/2027

Huiskonen Syöpäsäätiö 2025

Huiskonen, J. (Project manager) & Castro, B. (Participant)
Syöpäsäätiö sr Cancerstiftelsen sr
01/01/2025 → 31/12/2026

iCoin: Inhibitors of SARS-CoV-2 infection

Huiskonen, J. (Project manager), Castro, B. (Participant), Hannula, L. (Participant), Kant, R. (Participant), Kumpula, E.-P. T. (Participant) & Rissanen, I. (Participant)
SUOMEN AKATEMIA Vähäkylä Leena

01/01/2020 → 31/12/2022

Mechanism of antagonist

Huiskonen, J. (Project manager) & Castro, B. (Participant)
Syöpäsäätiö sr Cancerstiftelsen sr
01/01/2024 → 28/02/2025

CellCargo: Molecular mechanisms in cellular cargo trafficking complexes

Huiskonen, J. (Project manager), Green, M. (Participant), Lu, X. (Participant), Nordlin, K. P. (Participant), Sah Teli, S. K. (Participant) & Song, X. (Participant)
Jane ja Aatos Erkon säätiö
01/09/2021 → 31/08/2024

NativeGap Juselius 1/3 2025-2026

Huiskonen, J. (Project manager)
Sigrid Juséliuksen Säätiö @003701165704@
01/05/2025 → 30/04/2026

SEMMA: Structures of Endogenous Macromolecular Complexes

Huiskonen, J. (Project manager), Eshriew, E. K. (Participant) & Kumpula, E.-P. T. (Participant)
Suomen Akatemia Projektilaskutus
01/09/2018 → 31/08/2022

University profiling funding 7 InterEarth RESET

Airavaara, M. (Project manager), Heiskanen, J. (Project manager), Huiskonen, J. (Project manager), Hyvärinen, M. (Project manager), Kulmala, M. (Project manager), Kulmala, M. (Project manager), Mervaala, E. (Project manager), Mäkelä, J. (Project manager), Primmer, C. (Project manager), Räsänen, A. (Project manager), Sironen, T. (Project manager), Toivonen, R. (Project manager), Aalto, P. (Participant), Ahonen, L. (Participant), Alakukku, L. (Participant), Auvinen, P. (Participant), Betz-Heinemann, A. (Participant), Citterico, M. (Participant), Ecke, F. (Participant), El Wali, M. (Participant), Eronen, J. T. (Participant), Fuentenebro Alonso, P. (Participant), Gammal, J. (Participant), Green, S. (Participant), Haaranen, D. A. P. (Participant), Heikinheimo, A. (Participant), Heinonen, S. (Participant), Heinonen, M. (Participant), Hohti, R. (Participant), Holopainen, M. (Participant), Hyytiäinen, K. (Participant), Jokiranta, J. (Participant), Kaartinen, T. (Participant), Karhu, K. (Participant), Kaukonen, M. (Participant), Kempainen, J. (Participant), Kerminen, V.-M. (Participant), Kiljunen, S. (Participant), Kolari, P. (Participant), Korpela, K. (Participant), Korsunova-Tsaruk, A. (Participant), Koskinen, M. (Participant), Lajunen, A. (Participant), Lampilahti, J. (Participant), Lehto, K.-M. (Participant), Lewandowska, A. (Participant), Lindholm, T. M. (Participant), Lindroos, M. (Participant), Lintunen, A. (Participant), Luomanen, P. (Participant), Lyu, Y. (Participant), Mappes, J. (Participant), Mietola, R. (Participant), Mühleip, A. W. (Participant), Nordström, M. C. (Participant), Norkko, J. (Participant), Omija, J. A. (Participant), Paasonen, P. (Participant), Pietikäinen, J. (Participant), Pihlatie, M. (Participant), Poupert, T. A. (Participant), Pylkkö, T. (Participant), Raivonen, M. (Participant), Rasmus, L. S. (Participant), Ruohomäki, A. I. (Participant), Ryhti-Laine, K. (Participant), Saari, T. (Participant), Sadeghibagherabadi, A. (Participant), Sandström, V. (Participant), Sikanen, T. (Participant), Siven, M. (Participant), Spisak, S. M. (Participant), Su, X. (Participant), Syrjä, P. (Participant), Taira, T. (Participant), Tani, S. (Participant), Tanskanen, T. T. (Participant), Tatti, N. (Participant), Thomas, D. N. (Participant), Tiira, T. (Participant), Toppinen, A. (Participant), Uimari, P. (Participant), Uusitalo, J. A. (Participant), Vainio, A. (Participant), Varjosalo, M. (Participant), Vartiainen, M. (Participant), Veikkolainen, T. (Participant) & Zaidan, M. A. (Participant)
Academy of Finland, Suomen Akatemia Projektilaskutus
01/01/2023 → 31/12/2028

Yliopiston profilointi 8 - DIVSOL - Humt

Airavaara, M. (Project manager), Eronen, J. T. (Project manager), Hietakangas, V. (Project manager), Huiskonen, J. (Project manager), Kaartinen, T. (Project manager), Kangasharju, J. (Project manager), Kouvonen, P. J. (Project manager), Martikainen, P. (Project manager), Mäkelä, J. (Project manager), Niemi, M. (Project manager), Ojanen, T. (Project manager), Pönkä, V. (Project manager), Ripatti, S. (Project manager), Räsänen, A. (Project manager), Simojoki, H. (Project manager), Sinnemäki, K. (Project manager), Suomalainen Wartiovaara, A. (Project manager), Toivonen, R. (Project manager), Toom, A. (Project manager), Enkavi, G. (Participant), Fogelholm, M. (Participant), Heinonen, M. (Participant), Jahnukainen, M. (Participant), Korhonen, K. (Participant), Lindh, I. (Participant), Paavilainen, V. (Participant), Pajari, A.-M. (Participant), Pitkänen, E. (Participant), Rubinacci, S. (Participant) & Sandell, M. (Participant)
Academy of Finland, Suomen Akatemia Projektilaskutus, Suomen Akatemia Talous/Paula Pesola
01/01/2025 → 31/12/2030