

Stanford



Jan Carette

Professor of Microbiology and Immunology

Bio

ACADEMIC APPOINTMENTS

- Professor, Microbiology and Immunology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Medicine Children's Health Center for IBD and Celiac Disease
- Faculty Fellow, Sarafan ChEM-H
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Investigator in the Pathogenesis of Infectious Disease, Burroughs Wellcome Fund (2018)
- Scholar Award, American Asthma Foundation (2014)
- Ann Palmenberg Junior Investigator Award, American Society of Virology (2013)
- Fellow, David & Lucile Packard Foundation (2012)
- NIH Director's New Innovator Award, NIH (2012)
- Baxter Faculty Scholar Award, Baxter Foundation (2011)

LINKS

- Carette Lab: <http://med.stanford.edu/carettelab.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research focuses on the identification of host genes that play critical roles in the pathogenesis of infectious agents including viruses. We use CRISPR genetic screens in human cells as an efficient approach to perform loss-of-function studies. Besides obtaining fundamental insights on how viruses hijack cellular processes and on host defense mechanisms, it might also facilitate the development of new therapeutic strategies.

Teaching

COURSES

2025-26

- Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites: MI 210 (Win)

- Frontiers in Microbiology and Immunology: MI 250 (Aut, Win)

2024-25

- Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites: MI 210 (Win)
- Frontiers in Microbiology and Immunology: MI 250 (Aut, Win)

2023-24

- Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites: MI 210 (Win)
- Frontiers in Microbiology and Immunology: MI 250 (Aut, Win)

2022-23

- Advanced Pathogenesis of Bacteria, Viruses, and Eukaryotic Parasites: MI 210 (Spr)
- Biology and Applications of CRISPR/Cas9: Genome Editing and Epigenome Modifications: BIOS 268, GENE 268 (Spr)
- Frontiers in Microbiology and Immunology: MI 250 (Aut, Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Isabel Delwel, Michael Palo, Xariana Vales Torres

Postdoctoral Faculty Sponsor

Pingping Cao, Apolonia Gardner, Jimin Yoon

Doctoral Dissertation Advisor (AC)

Emma Esterman, Nicole Tanenbaum

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Microbiology and Immunology (Phd Program)

Publications

PUBLICATIONS

- **MFSD6 is an entry receptor for enterovirus D68.** *Nature*
Varanese, L., Xu, L., Peters, C. E., Pintilie, G., Roberts, D. S., Raj, S., Liu, M., Ooi, Y. S., Diep, J., Qiao, W., Richards, C. M., Callaway, J., Bertozzi, et al
2025
- **Development of cell lines with increased susceptibility to diverse adeno-associated viral vectors to enable in vitro potency assays.** *Molecular therapy. Methods & clinical development*
Zengel, J., Esterman, E. S., Ponnuswami, A., Wall, N. R., Carette, J. E.
2025; 33 (1): 101416
- **Druggable genome screens identify SPP as an antiviral host target for multiple flaviviruses.** *Proceedings of the National Academy of Sciences of the United States of America*
Qiao, W., Xie, X., Shi, P. Y., Ooi, Y. S., Carette, J. E.
2025; 122 (8): e2421573122
- **MYADM binds human parechovirus 1 and is essential for viral entry.** *Nature communications*
Qiao, W., Richards, C. M., Kim, Y., Zengel, J. R., Ding, S., Greenberg, H. B., Carette, J. E.
2024; 15 (1): 3469
- **Hardwiring tissue-specific AAV transduction in mice through engineered receptor expression.** *Nature methods*
Zengel, J., Wang, Y. X., Seo, J. W., Ning, K., Hamilton, J. N., Wu, B., Raie, M., Holbrook, C., Su, S., Clements, D. R., Pillay, S., Puschnik, A. S., Winslow, et al

2023

- **The human disease gene LYSET is essential for lysosomal enzyme transport and viral infection.** *Science (New York, N.Y.)*
Richards, C. M., Jabs, S., Qiao, W., Varanese, L. D., Schweizer, M., Mosen, P. R., Riley, N. M., Klüssendorf, M., Zengel, J. R., Flynn, R. A., Rustagi, A., Widen, J. C., Peters, et al
2022: eabn5648
- **Structure-function analysis of enterovirus protease 2A in complex with its essential host factor SETD3.** *Nature communications*
Peters, C. E., Schulze-Gahmen, U., Eckhardt, M., Jang, G. M., Xu, J., Pulido, E. H., Bardine, C., Craik, C. S., Ott, M., Gozani, O., Verba, K. A., Hüttenhain, R., Carette, et al
2022; 13 (1): 5282
- **An RNA-centric dissection of host complexes controlling flavivirus infection.** *Nature microbiology*
Ooi, Y. S., Majzoub, K., Flynn, R. A., Mata, M. A., Diep, J., Li, J. K., van Buuren, N., Rumachik, N., Johnson, A. G., Puschnik, A. S., Marceau, C. D., Mlera, L., Grabowski, et al
2019
- **Enterovirus pathogenesis requires the host methyltransferase SETD3.** *Nature microbiology*
Diep, J. n., Ooi, Y. S., Wilkinson, A. W., Peters, C. E., Foy, E. n., Johnson, J. R., Zengel, J. n., Ding, S. n., Weng, K. F., Laufman, O. n., Jang, G. n., Xu, J. n., Young, et al
2019
- **MLKL Requires the Inositol Phosphate Code to Execute Necroptosis.** *Molecular cell*
Dovey, C. M., Diep, J. n., Clarke, B. P., Hale, A. T., McNamara, D. E., Guo, H. n., Brown, N. W., Cao, J. Y., Grace, C. R., Gough, P. J., Bertin, J. n., Dixon, S. J., Fiedler, et al
2018; 70 (5): 936–48.e7
- **A CRISPR toolbox to study virus-host interactions** *NATURE REVIEWS MICROBIOLOGY*
Puschnik, A. S., Majzoub, K., Ooi, Y. S., Carette, J. E.
2017; 15 (6): 351-364
- **A Small-Molecule Oligosaccharyltransferase Inhibitor with Pan-flaviviral Activity.** *Cell reports*
Puschnik, A. S., Marceau, C. D., Ooi, Y. S., Majzoub, K. n., Rinis, N. n., Contessa, J. N., Carette, J. E.
2017; 21 (11): 3032–39
- **Genetic dissection of Flaviviridae host factors through genome-scale CRISPR screens** *NATURE*
Marceau, C. D., Puschnik, A. S., Majzoub, K., Ooi, Y. S., Brewer, S. M., Fuchs, G., Swaminathan, K., Mata, M. A., Elias, J. E., Sarnow, P., Carette, J. E.
2016; 535 (7610): 159-?
- **An essential receptor for adeno-associated virus infection.** *Nature*
Pillay, S., Meyer, N. L., Puschnik, A. S., Davulcu, O., Diep, J., Ishikawa, Y., Jae, L. T., Wosen, J. E., Nagamine, C. M., Chapman, M. S., Carette, J. E.
2016; 530 (7588): 108-112
- **Ebola virus entry requires the cholesterol transporter Niemann-Pick C1** *NATURE*
Carette, J. E., Raaben, M., Wong, A. C., Herbert, A. S., Obernosterer, G., Mulherkar, N., Kuehne, A. I., Kranzusch, P. J., Griffin, A. M., Ruthel, G., Dal Cin, P., Dye, J. M., Whelan, et al
2011; 477 (7364): 340-U115
- **Membrane-wide screening identifies potential tissue-specific determinants of SARS-CoV-2 tropism.** *PLoS pathogens*
Dinesh, R. K., Wang, C., Qu, Y., Rustagi, A., Cousins, H., Zengel, J., Wang, X., Barnard, T. R., Johnson, W. A., Xu, G., Zhang, T., Magazine, N., Beck, et al
2025; 21 (7): e1013157
- **Conserved long-range interactions are required for stable folding of orthoflaviviral genomic RNA.** *Nucleic acids research*
Palo, M. Z., Ha, B., Lapointe, C. P., Alvarado, C., Janetzko, J., Carette, J. E., Puglisi, J. D., Puglisi, E. V.
2025; 53 (11)
- **CD301b+ monocyte-derived dendritic cells mediate resistance to radiotherapy.** *The Journal of experimental medicine*
Tadepalli, S., Clements, D. R., Raquer-McKay, H. M., Lütke, A., Saravanan, S., Seong, D., Vitek, L., Richards, C. M., Carette, J. E., Mack, M., Gottfried-Blackmore, A., Graves, E. E., Idoyaga, et al

2025; 222 (6)

- **Increasing the Susceptibility of Cell Lines to a Broad Range of Adeno-Associated Viral Vectors to Enable in Vitro Potency Assays**
Carette, J., Zengel, J., Esterman, E., Ponnuswami, A., Puschnik, A., Wall, N.
CELL PRESS.2025
- **Studies of C57BL/6J Mice Deficient in Receptors for IFN α / β and IFN γ as a Model for EV-D68 Acute Flaccid Myelitis** *COMPARATIVE MEDICINE*
Watarastaporn, T., Song, W., Glenn, J. S., Ooi, Y., Carette, J. E., Nagamine, C. M.
2024; 74 (6): 392-398
- **GOLPH3 and GOLPH3L maintain Golgi localization of LYSET and a functional mannose 6-phosphate transport pathway.** *The EMBO journal*
Brauer, B. K., Chen, Z., Beirow, F., Li, J., Meisinger, D., Capriotti, E., Schweizer, M., Wagner, L., Wienberg, J., Hobohm, L., Blume, L., Qiao, W., Narimatsu, et al
2024
- **Characterization of Effect of Enterovirus D68 in 129/Sv Mice Deficient in IFN-alpha/beta and/or IFN-gamma Receptors.** *Comparative medicine*
Song, W., Watarastaporn, T., Ooi, Y. S., Nguyen, K., Glenn, J. S., Carette, J. E., Casey, K. M., Nagamine, C. M.
2024
- **Activation of the helper NRC4 immune receptor forms a hexameric resistosome.** *Cell*
Liu, F., Yang, Z., Wang, C., You, Z., Martin, R., Qiao, W., Huang, J., Jacob, P., Dangl, J. L., Carette, J. E., Luan, S., Nogales, E., Staskawicz, et al
2024
- **CRISPR Screen Reveals PACT as a Pro-Viral Factor for Dengue Viral Replication.** *Viruses*
Shivaprasad, S., Qiao, W., Weng, K. F., Umashankar, P., Carette, J. E., Sarnow, P.
2024; 16 (5)
- **The herpesvirus UL49.5 protein hijacks a cellular C-degron pathway to drive TAP transporter degradation.** *Proceedings of the National Academy of Sciences of the United States of America*
Wąchalska, M., Riepe, C., Ślusarz, M. J., Graul, M., Borowski, L. S., Qiao, W., Foltińska, M., Carette, J. E., Bieńkowska-Szewczyk, K., Szczesny, R. J., Kopito, R. R., Lipińska, A. D.
2024; 121 (11): e2309841121
- **Integrative analysis of functional genomic screening and clinical data identifies a protective role for spironolactone in severe COVID-19.** *Cell reports methods*
Cousins, H. C., Kline, A. S., Wang, C., Qu, Y., Zengel, J., Carette, J., Wang, M., Altman, R. B., Luo, Y., Cong, L.
2023; 3 (7): 100503
- **Lysosomal enzyme trafficking: from molecular mechanisms to human diseases.** *Trends in cell biology*
Braulke, T., Carette, J. E., Palm, W.
2023
- **Autoantibodies are highly prevalent in non-SARS-CoV-2 respiratory infections and critical illness.** *JCI insight*
Feng, A., Yang, E. Y., Moore, A. R., Dhingra, S., Chang, S. E., Yin, X., Pi, R., Mack, E. K., Völkel, S., Geßner, R., Gündisch, M., Neubauer, A., Renz, et al
2023; 8 (3)
- **Nuclear accumulation of host transcripts during Zika Virus Infection.** *PLoS pathogens*
Leon, K. E., Khalid, M. M., Flynn, R. A., Fontaine, K. A., Nguyen, T. T., Kumar, G. R., Simoneau, C. R., Tomar, S., Jimenez-Morales, D., Dunlap, M., Kaye, J., Shah, P. S., Finkbeiner, et al
2023; 19 (1): e1011070
- **TMEM41B and VMP1 modulate cellular lipid and energy metabolism for facilitating dengue virus infection.** *PLoS pathogens*
Yousefi, M., Lee, W. S., Yan, B., Cui, L., Yong, C. L., Yap, X., Tay, K. S., Qiao, W., Tan, D., Nurazmi, N. I., Linster, M., Smith, G. J., Lee, et al
2022; 18 (8): e1010763
- **Genome-wide bidirectional CRISPR screens identify mucins as host factors modulating SARS-CoV-2 infection.** *Nature genetics*
Biering, S. B., Sarnik, S. A., Wang, E., Zengel, J. R., Leist, S. R., Schafer, A., Sathyan, V., Hawkins, P., Okuda, K., Tau, C., Jangid, A. R., Duffy, C. V., Wei, et al

2022

- **Loquacious modulates flaviviral RNA replication in mosquito cells.** *PLoS pathogens*
Shivaprasad, S., Weng, K. F., Ooi, Y. S., Belk, J., Carette, J. E., Flynn, R., Sarnow, P.
2022; 18 (4): e1010163
- **Small RNAs are modified with N-glycans and displayed on the surface of living cells.** *Cell*
Flynn, R. A., Pedram, K., Malaker, S. A., Batista, P. J., Smith, B. A., Johnson, A. G., George, B. M., Majzoub, K., Villalta, P. W., Carette, J. E., Bertozzi, C. R.
2021
- **Discovery and functional interrogation of SARS-CoV-2 RNA-host protein interactions.** *Cell*
Flynn, R. A., Belk, J. A., Qi, Y., Yasumoto, Y., Wei, J., Alfajaro, M. M., Shi, Q., Mumbach, M. R., Limaye, A., DeWeirdt, P. C., Schmitz, C. O., Parker, K. R., Woo, et al
2021
- **Return of the Neurotropic Enteroviruses: Co-Opting Cellular Pathways for Infection.** *Viruses*
Peters, C. E., Carette, J. E.
2021; 13 (2)
- **Improved Genome Editing through Inhibition of FANCM and Members of the BTR Dissolvase Complex.** *Molecular therapy : the journal of the American Society of Gene Therapy*
de Alencastro, G. n., Puzzo, F. n., Pavel-Dinu, M. n., Zhang, F. n., Pillay, S. n., Majzoub, K. n., Tiffany, M. n., Jang, H. n., Sheikali, A. n., Cromer, M. K., Meetei, R. n., Carette, J. E., Porteus, et al
2021; 29 (3): 1016–27
- **Inhibitor of growth protein 3 epigenetically silences endogenous retroviral elements and prevents innate immune activation.** *Nucleic acids research*
Song, Y., Hou, G., Diep, J., Ooi, Y. S., Akopyants, N. S., Beverley, S. M., Carette, J. E., Greenberg, H. B., Ding, S.
2021
- **Cracking the cell access code for a deadly virus** *NATURE*
Zengel, J., Carette, J. E.
2020; 588 (7837): 223–24
- **Necroptosis-based CRISPR knockout screen reveals Neuropilin-1 as a critical host factor for early stages of murine cytomegalovirus infection.** *Proceedings of the National Academy of Sciences of the United States of America*
Lane, R. K., Guo, H., Fisher, A. D., Diep, J., Lai, Z., Chen, Y., Upton, J. W., Carette, J., Mocarski, E. S., Kaiser, W. J.
2020
- **Conserved Oligomeric Golgi (COG) Complex Proteins Facilitate Orthopoxvirus Entry, Fusion and Spread.** *Viruses*
Realegeno, S., Priyamvada, L., Kumar, A., Blackburn, J. B., Hartloge, C., Puschnik, A. S., Sambhara, S., Olson, V. A., Carette, J. E., Lupashin, V., Satheshkumar, P. S.
2020; 12 (7)
- **ATRAID regulates the action of nitrogen-containing bisphosphonates on bone.** *Science translational medicine*
Surface, L. E., Burrow, D. T., Li, J., Park, J., Kumar, S., Lyu, C., Song, N., Yu, Z., Rajagopal, A., Bae, Y., Lee, B. H., Mumm, S., Gu, et al
2020; 12 (544)
- **Lipid droplets can promote drug accumulation and activation.** *Nature chemical biology*
Dubey, R., Stivala, C. E., Nguyen, H. Q., Goo, Y., Paul, A., Carette, J. E., Trost, B. M., Rohatgi, R.
2020
- **Structural and cellular biology of adeno-associated virus attachment and entry.** *Advances in virus research*
Zengel, J. n., Carette, J. E.
2020; 106: 39–84
- **Cracking the cell access code for the deadly virus VEEV.** *Nature*
Zengel, J. n., Carette, J. E.
2020; 588 (7837): 223–24

- **Genetic Screens Identify Host Factors for SARS-CoV-2 and Common Cold Coronaviruses.** *Cell*
Wang, R. n., Simoneau, C. R., Kulsuptrakul, J. n., Bouhaddou, M. n., Travisano, K. A., Hayashi, J. M., Carlson-Stevermer, J. n., Zengel, J. R., Richards, C. M., Fozouni, P. n., Oki, J. n., Rodriguez, L. n., Joehnk, et al
2020
- **A memory of eS25 loss drives resistance phenotypes.** *Nucleic acids research*
Johnson, A. G., Flynn, R. A., Lapointe, C. P., Ooi, Y. S., Zhao, M. L., Richards, C. M., Qiao, W. n., Yamada, S. B., Couthouis, J. n., Gitler, A. D., Carette, J. E., Puglisi, J. D.
2020
- **Enhancing the Antiviral Efficacy of RNA-Dependent RNA Polymerase Inhibition by Combination with Modulators of Pyrimidine Metabolism.** *Cell chemical biology*
Liu, Q. n., Gupta, A. n., Okesli-Armlovich, A. n., Qiao, W. n., Fischer, C. R., Smith, M. n., Carette, J. E., Bassik, M. C., Khosla, C. n.
2020
- **R-spondins engage heparan sulfate proteoglycans to potentiate WNT signaling.** *eLife*
Dubey, R. n., van Kerkhof, P. n., Jordens, I. n., Malinauskas, T. n., Pusapati, G. V., McKenna, J. K., Li, D. n., Carette, J. E., Ho, M. n., Siebold, C. n., Maurice, M. n., Lebensohn, A. M., Rohatgi, et al
2020; 9
- **GluA4-Targeted AAV Vectors Deliver Genes Selectively to Interneurons while Relying on the AAV Receptor for Entry.** *Molecular therapy. Methods & clinical development*
Hartmann, J., Thalheimer, F. B., Hopfner, F., Kerzel, T., Khodosevich, K., Garcia-Gonzalez, D., Monyer, H., Diester, I., Buning, H., Carette, J. E., Fries, P., Buchholz, C. J.
2019; 14: 252–60
- **Identification of the Cell-Surface Protease ADAM9 as an Entry Factor for Encephalomyocarditis Virus.** *mBio*
Baggen, J., Thibaut, H. J., Hurdiss, D. L., Wahedi, M., Marceau, C. D., van Vliet, A. L., Carette, J. E., van Kuppeveld, F. J.
2019; 10 (4)
- **Capsid engineering overcomes barriers toward Adeno-associated viral (AAV) vector-mediated transduction of endothelial cells.** *Human gene therapy*
Zhang, L., Rossi, A., Lange, L., Meumann, N., Koitzsch, U., Christie, K., Nesbit, A., Moore, T., Hacker, U., Morgan, M. A., Hoffmann, D., Zengel, J. R., Carette, et al
2019
- **Direct Activation of Human MLKL by a Select Repertoire of Inositol Phosphate Metabolites** *CELL CHEMICAL BIOLOGY*
McNamara, D. E., Dovey, C. M., Hale, A. T., Quarato, G., Grace, C. R., Guibao, C. D., Diep, J., Nourse, A., Cai, C. R., Wu, H., Kalathur, R. C., Green, D. R., York, et al
2019; 26 (6): 863–+
- **Impact of a patient-derived hepatitis C viral RNA genome with a mutated microRNA binding site** *PLOS PATHOGENS*
Mata, M., Neben, S., Majzoub, K., Carette, J., Ramanathan, M., Khavari, P. A., Sarnow, P.
2019; 15 (5)
- **A Genome-wide Haploid Genetic Screen Identifies Regulators of Glutathione Abundance and Ferroptosis Sensitivity.** *Cell reports*
Cao, J. Y., Poddar, A., Magtanong, L., Lumb, J. H., Mileur, T. R., Reid, M. A., Dovey, C. M., Wang, J., Locasale, J. W., Stone, E., Cole, S. P., Carette, J. E., Dixon, et al
2019; 26 (6): 1544
- **SETD3 is an actin histidine methyltransferase that prevents primary dystocia** *NATURE*
Wilkinson, A. W., Diep, J., Dai, S., Liu, S., Ooi, Y., Song, D., Li, T., Horton, J. R., Zhang, X., Liu, C., Trivedi, D. V., Ruppel, K. M., Vilches-Moure, et al
2019; 565 (7739): 372–+
- **Differential and convergent utilization of autophagy components by positive-strand RNA viruses.** *PLoS biology*
Abernathy, E., Mateo, R., Majzoub, K., van Buuren, N., Bird, S. W., Carette, J. E., Kirkegaard, K.
2019; 17 (1): e2006926
- **Discovery of gene regulatory elements through a new bioinformatics analysis of haploid genetic screens.** *PLoS one*
Patel, B. B., Lebensohn, A. M., Pusapati, G. V., Carette, J. E., Salzman, J. n., Rohatgi, R. n.
2019; 14 (1): e0198463

- **GPR108 Is a Highly Conserved AAV Entry Factor.** *Molecular therapy : the journal of the American Society of Gene Therapy*
Dudek, A. M., Zabaleta, N. n., Zinn, E. n., Pillay, S. n., Zengel, J. n., Porter, C. n., Franceschini, J. S., Estelien, R. n., Carette, J. E., Zhou, G. L., Vandenberghe, L. H.
2019
- **Honey bee Royalactin unlocks conserved pluripotency pathway in mammals.** *Nature communications*
Wan, D. C., Morgan, S. L., Spencley, A. L., Mariano, N., Chang, E. Y., Shankar, G., Luo, Y., Li, T. H., Huh, D., Huynh, S. K., Garcia, J. M., Dovey, C. M., Lumb, et al
2018; 9 (1): 5078
- **A Dock-and-Lock Mechanism Clusters ADAM10 at Cell-Cell Junctions to Promote alpha-Toxin Cytotoxicity.** *Cell reports*
Shah, J., Rouaud, F., Guerrero, D., Vasileva, E., Popov, L. M., Kelley, W. L., Rubinstein, E., Carette, J. E., Amieva, M. R., Citi, S.
2018; 25 (8): 2132
- **Editing N-Glycan Site Occupancy with Small-Molecule Oligosaccharyltransferase Inhibitors** *CELL CHEMICAL BIOLOGY*
Rinis, N., Golden, J. E., Marceau, C. D., Carette, J. E., Van Zandt, M. C., Gilmore, R., Contessa, J. N.
2018; 25 (10): 1231-+
- **Species-independent contribution of ZBP1/DAI/DLM-1-triggered necroptosis in host defense against HSV1** *CELL DEATH & DISEASE*
Guo, H., Gilley, R. P., Fisher, A., Lane, R., Landsteiner, V. J., Ragan, K. B., Dovey, C. M., Carette, J. E., Upton, J. W., Mocarski, E. S., Kaiser, W. J.
2018; 9: 816
- **KREMEN1 Is a Host Entry Receptor for a Major Group of Enteroviruses** *CELL HOST & MICROBE*
Staring, J., van den Hengel, L. G., Raaben, M., Blomen, V. A., Carette, J. E., Brummelkamp, T. R.
2018; 23 (5): 636-+
- **STAG2 deficiency induces interferon responses via cGAS-STING pathway and restricts virus infection.** *Nature communications*
Ding, S., Diep, J., Feng, N., Ren, L., Li, B., Ooi, Y. S., Wang, X., Brulois, K. F., Yasukawa, L. L., Li, X., Kuo, C. J., Solomon, D. A., Carette, et al
2018; 9 (1): 1485
- **An alternate route for adeno-associated virus entry independent of AAVR.** *Journal of virology*
Dudek, A. M., Pillay, S. n., Puschnik, A. S., Nagamine, C. M., Cheng, F. n., Qiu, J. n., Carette, J. E., Vandenberghe, L. H.
2018
- **SETD3 is an actin histidine methyltransferase that prevents primary dystocia.** *Nature*
Wilkinson, A. W., Diep, J. n., Dai, S. n., Liu, S. n., Ooi, Y. S., Song, D. n., Li, T. M., Horton, J. R., Zhang, X. n., Liu, C. n., Trivedi, D. V., Ruppel, K. M., Vilches-Moure, et al
2018
- **RNA-protein interaction detection in living cells.** *Nature methods*
Ramanathan, M. n., Majzoub, K. n., Rao, D. S., Neela, P. H., Zarnegar, B. J., Mondal, S. n., Roth, J. G., Gai, H. n., Kovalski, J. R., Siprashvili, Z. n., Palmer, T. D., Carette, J. E., Khavari, et al
2018
- **AAV serotypes have distinctive interactions with domains of the cellular receptor AAVR.** *Journal of virology*
Pillay, S., Zou, W., Cheng, F., Puschnik, A. S., Meyer, N. L., Ganaie, S. S., Deng, X., Wosen, J. E., Davulcu, O., Yan, Z., Engelhardt, J. F., Brown, K. E., Chapman, et al
2017
- **Monkeypox Virus Host Factor Screen Using Haploid Cells Identifies Essential Role of GARP Complex in Extracellular Virus Formation.** *Journal of virology*
Realegeno, S., Puschnik, A. S., Kumar, A., Goldsmith, C., Burgado, J., Sambhara, S., Olson, V. A., Carroll, D., Damon, I., Hirata, T., Kinoshita, T., Carette, J. E., Satheshkumar, et al
2017; 91 (11)
- **Host determinants of adeno-associated viral vector entry.** *Current opinion in virology*
Pillay, S., Carette, J. E.
2017; 24: 124-131
- **Antigen presentation profiling reveals recognition of lymphoma immunoglobulin neoantigens** *NATURE*

- Khodadoust, M. S., Olsson, N., Wagar, L. E., Haabeth, O. A., Chen, B., Swaminathan, K., Rawson, K., Liu, C. L., Steiner, D., Lund, P., Rao, S., Zhang, L., Marceau, et al
2017; 543 (7647): 723-?
- **PLA2G16 represents a switch between entry and clearance of Picornaviridae.** *Nature*
Staring, J., von Castelmur, E., Blomen, V. A., van den Hengel, L. G., Brockmann, M., Baggen, J., Thibaut, H. J., Nieuwenhuis, J., Janssen, H., Van Kuppeveld, F. J., Perrakis, A., Carette, J. E., Brummelkamp, et al
2017; 541 (7637): 412-416
 - **DDX6 Represses Aberrant Activation of Interferon-Stimulated Genes.** *Cell reports*
Lumb, J. H., Li, Q. n., Popov, L. M., Ding, S. n., Keith, M. T., Merrill, B. D., Greenberg, H. B., Li, J. B., Carette, J. E.
2017; 20 (4): 819-31
 - **Comparative genetic screens in human cells reveal new regulatory mechanisms in WNT signaling** *ELIFE*
Lebensohn, A. M., Dubey, R., Neitzel, L. R., Tacchelly-Benites, O., Yang, E., Marceau, C. D., Davis, E. M., Patel, B. B., Bahrami-Nejad, Z., Travaglini, K. J., Ahmed, Y., Lee, E., Carette, et al
2016; 5
 - **Complement pathway amplifies caspase-11-dependent cell death and endotoxin-induced sepsis severity.** *journal of experimental medicine*
Napier, B. A., Brubaker, S. W., Sweeney, T. E., Monette, P., Rothmeier, G. H., Gertsvolf, N. A., Puschnik, A., Carette, J. E., Khatri, P., Monack, D. M.
2016; 213 (11): 2365-2382
 - **Chromatin-Remodeling Complex SWI/SNF Controls Multidrug Resistance by Transcriptionally Regulating the Drug Efflux Pump ABCB1** *CANCER RESEARCH*
Dubey, R., Lebensohn, A. M., Bahrami-Nejad, Z., Marceau, C., Champion, M., Gevaert, O., Sikic, B. I., Carette, J. E., Rohatgi, R.
2016; 76 (19): 5810-5821
 - **Parallel shRNA and CRISPR-Cas9 screens enable antiviral drug target identification** *NATURE CHEMICAL BIOLOGY*
Deans, R. M., Morgens, D. W., Okesli, A., Pillay, S., Horlbeck, M. A., Kampmann, M., Gilbert, L. A., Li, A., Mateo, R., Smith, M., Glenn, J. S., Carette, J. E., Khosla, et al
2016; 12 (5): 361-?
 - **A Single Residue in Ebola Virus Receptor NPC1 Influences Cellular Host Range in Reptiles.** *mSphere*
Ndungo, E., Herbert, A. S., Raaben, M., Obernosterer, G., Biswas, R., Miller, E. H., Wirchnianski, A. S., Carette, J. E., Brummelkamp, T. R., Whelan, S. P., Dye, J. M., Chandran, K.
2016; 1 (2)
 - **Gene essentiality and synthetic lethality in haploid human cells.** *Science*
Blomen, V. A., Májek, P., Jae, L. T., Bigenzahn, J. W., Nieuwenhuis, J., Staring, J., Sacco, R., van Diemen, F. R., Oik, N., Stukalov, A., Marceau, C., Janssen, H., Carette, et al
2015; 350 (6264): 1092-1096
 - **The adherens junctions control susceptibility to Staphylococcus aureus a-toxin.** *Proceedings of the National Academy of Sciences of the United States of America*
Popov, L. M., Marceau, C. D., Starkl, P. M., Lumb, J. H., Shah, J., Guerrero, D., Cooper, R. L., Merakou, C., Bouley, D. M., Meng, W., Kiyonari, H., Takeichi, M., Galli, et al
2015; 112 (46): 14337-14342
 - **A forward genetic screen reveals novel independent regulators of ULBP1, an activating ligand for natural killer cells** *ELIFE*
Gowen, B. G., Chim, B., Marceau, C. D., Greene, T. T., Burr, P., Gonzalez, J. R., Hesser, C. R., Dietzen, P. A., Russell, T., Iannello, A., Coscoy, L., Sentman, C. L., Carette, et al
2015; 4
 - **Kinetic pathway of 40S ribosomal subunit recruitment to hepatitis C virus internal ribosome entry site.** *Proceedings of the National Academy of Sciences of the United States of America*
Fuchs, G., Petrov, A. N., Marceau, C. D., Popov, L. M., Chen, J., O'Leary, S. E., Wang, R., Carette, J. E., Sarnow, P., Puglisi, J. D.
2015; 112 (2): 319-325
 - **Compromising the 19S proteasome complex protects cells from reduced flux through the proteasome.** *eLife*
Tsvetkov, P., Mendillo, M. L., Zhao, J., Carette, J. E., Merrill, P. H., Cikes, D., Varadarajan, M., van Diemen, F. R., Penninger, J. M., Goldberg, A. L., Brummelkamp, T. R., Santagata, S., Lindquist, et al

2015; 4

- **Hunting Viral Receptors Using Haploid Cells** *ANNUAL REVIEW OF VIROLOGY, VOL 2*
Pillay, S., Carette, J. E.
2015; 2: 219-239
- **A forward genetic screen reveals novel independent regulators of ULBP1, an activating ligand for natural killer cells.** *eLife*
Gowen, B. G., Chim, B., Marceau, C. D., Greene, T. T., Burr, P., Gonzalez, J. R., Hesser, C. R., Dietzen, P. A., Russell, T., Iannello, A., Coscoy, L., Sentman, C. L., Carette, et al
2015; 4
- **Identifying multi-locus chromatin contacts in human cells using tethered multiple 3C.** *BMC genomics*
Ay, F., Vu, T. H., Zeitz, M. J., Varoquaux, N., Carette, J. E., Vert, J., Hoffman, A. R., Noble, W. S.
2015; 16: 121-?
- **RIP3 induces apoptosis independent of pronecrotic kinase activity.** *Molecular cell*
Mandal, P., Berger, S. B., Pillay, S., Moriwaki, K., Huang, C., Guo, H., Lich, J. D., Finger, J., Kasparcova, V., Votta, B., Ouellette, M., King, B. W., Wisnoski, et al
2014; 56 (4): 481-495
- **GPR107, a G-protein-coupled Receptor Essential for Intoxication by Pseudomonas aeruginosa Exotoxin A, Localizes to the Golgi and Is Cleaved by Furin.** *journal of biological chemistry*
Tafesse, F. G., Guimaraes, C. P., Maruyama, T., Carette, J. E., Lory, S., Brummelkamp, T. R., Ploegh, H. L.
2014; 289 (35): 24005-24018
- **Human induced pluripotent stem cell-derived cardiomyocytes as an in vitro model for coxsackievirus b3-induced myocarditis and antiviral drug screening platform.** *Circulation research*
Sharma, A., Marceau, C., Hamaguchi, R., Burridge, P. W., Rajarajan, K., Churko, J. M., Wu, H., Sallam, K. I., Matsa, E., Sturzu, A. C., Che, Y., Ebert, A., Diecke, et al
2014; 115 (6): 556-566
- **Inhibition of ATRIP1 Ameliorates Severe Mitochondrial Respiratory Chain Dysfunction in Mammalian Cells.** *Cell reports*
Chen, W. W., Birsoy, K., Mihaylova, M. M., Snitkin, H., Stasinski, I., Yucel, B., Bayraktar, E. C., Carette, J. E., Clish, C. B., Brummelkamp, T. R., Sabatini, D. D., Sabatini, D. M.
2014; 7 (1): 27-34
- **A CREB3-ARF4 signalling pathway mediates the response to Golgi stress and susceptibility to pathogens** *NATURE CELL BIOLOGY*
Reiling, J. H., Olive, A. J., Sanyal, S., Carette, J. E., Brummelkamp, T. R., Ploegh, H. L., Stambach, M. N., Sabatini, D. M.
2013; 15 (12): 1473-?
- **Late endosomal transport and tethering are coupled processes controlled by RILP and the cholesterol sensor ORP1L** *JOURNAL OF CELL SCIENCE*
van der Kant, R., Fish, A., Janssen, L., Janssen, H., Krom, S., Ho, N., Brummelkamp, T., Carette, J., Rocha, N., Neefjes, J.
2013; 126 (15): 3462-3474
- **A Reporter Screen in a Human Haploid Cell Line Identifies CYLD as a Constitutive Inhibitor of NF-kappa B** *PLOS ONE*
Lee, C. C., Carette, J. E., Brummelkamp, T. R., Ploegh, H. L.
2013; 8 (7)
- **Deciphering the Glycosylome of Dystroglycanopathies Using Haploid Screens for Lassa Virus Entry** *SCIENCE*
Jae, L. T., Raaben, M., Riemersma, M., van Beusekom, E., Blomen, V. A., Velds, A., Kerkhoven, R. M., Carette, J. E., Topaloglu, H., Meinecke, P., Wessels, M. W., Lefeber, D. J., Whelan, et al
2013; 340 (6131): 479-483
- **MCT1-mediated transport of a toxic molecule is an effective strategy for targeting glycolytic tumors.** *Nature genetics*
Birsoy, K., Wang, T., Possemato, R., Yilmaz, O. H., Koch, C. E., Chen, W. W., Hutchins, A. W., Gultekin, Y., Peterson, T. R., Carette, J. E., Brummelkamp, T. R., Clish, C. B., Sabatini, et al
2013; 45 (1): 104-108
- **MCT1-mediated transport of a toxic molecule is an effective strategy for targeting glycolytic tumors** *NATURE GENETICS*
Birsoy, K., Wang, T., Possemato, R., Yilmaz, O. H., Koch, C. E., Chen, W. W., Hutchins, A. W., Gultekin, Y., Peterson, T. R., Carette, J. E., Brummelkamp, T. R., Clish, C. B., Sabatini, et al

2013; 45 (1): 104-U149

- **Attachment of *Chlamydia trachomatis* L2 to host cells requires sulfation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Rosmarin, D. M., Carette, J. E., Olive, A. J., Stambach, M. N., Brummelkamp, T. R., Ploegh, H. L.
2012; 109 (25): 10059-10064
- **Ebola virus entry requires the host-programmed recognition of an intracellular receptor** *EMBO JOURNAL*
Miller, E. H., Obernosterer, G., Raaben, M., Herbert, A. S., Deffieu, M. S., Krishnan, A., Ndungo, E., Sandesara, R. G., Carette, J. E., Kuehne, A. I., Ruthel, G., Pfeffer, S. R., Dye, et al
2012; 31 (8): 1947-1960
- **Identification of host cell factors required for intoxication through use of modified cholera toxin** *JOURNAL OF CELL BIOLOGY*
Guimaraes, C. P., Carette, J. E., Varadarajan, M., Antos, J., Popp, M. W., Spooner, E., Brummelkamp, T. R., Ploegh, H. L.
2011; 195 (5): 751-764
- **Lipolysis-stimulated lipoprotein receptor (LSR) is the host receptor for the binary toxin *Clostridium difficile* transferase (CDT)** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Papatheodorou, P., Carette, J. E., Bell, G. W., Schwan, C., Guttenberg, G., Brummelkamp, T. R., Aktories, K.
2011; 108 (39): 16422-16427
- **A haploid genetic screen identifies the major facilitator domain containing 2A (MFSD2A) transporter as a key mediator in the response to tunicamycin** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Reiling, J. H., Clish, C. B., Carette, J. E., Varadarajan, M., Brummelkamp, T. R., Sabatini, D. M.
2011; 108 (29): 11756-11765
- **Global gene disruption in human cells to assign genes to phenotypes by deep sequencing** *NATURE BIOTECHNOLOGY*
Carette, J. E., Guimaraes, C. P., Wuethrich, I., Blomen, V. A., Varadarajan, M., Sun, C., Bell, G., Yuan, B., Muellner, M. K., Nijman, S. M., Ploegh, H. L., Brummelkamp, T. R.
2011; 29 (6): 542-U108
- **Objective determination of the oncolytic potency of conditionally-replicating adenoviruses using mathematical modeling** *JOURNAL OF GENE MEDICINE*
Idema, S., Dirven, C. M., van Beusechem, V. W., Carette, J. E., Planque, R., Noskel, D. P., Lamfers, M. L., Vandertop, W. P.
2010; 12 (7): 564-571
- **Generation of iPSCs from cultured human malignant cells** *BLOOD*
Carette, J. E., Pruszk, J., Varadarajan, M., Blomen, V. A., Gokhale, S., Camargo, F. D., Wernig, M., Jaenisch, R., Brummelkamp, T. R.
2010; 115 (20): 4039-4042
- **Haploid Genetic Screens in Human Cells Identify Host Factors Used by Pathogens** *SCIENCE*
Carette, J. E., Guimaraes, C. P., Varadarajan, M., Park, A. S., Wuethrich, I., Godarova, A., Kotecki, M., Cochran, B. H., Spooner, E., Ploegh, H. L., Brummelkamp, T. R.
2009; 326 (5957): 1231-1235
- **Replacement of native adenovirus receptor-binding sites with a new attachment moiety diminishes hepatic tropism and enhances bioavailability in mice** *HUMAN GENE THERAPY*
Schagen, F. H., Graat, H. C., Carette, J. E., Vellinga, J., van Geer, M. A., Hoeben, R. C., Dermody, T. S., van Beusechem, V. W.
2008; 19 (8): 783-794
- **Enhanced tumor cell kill by combined treatment with a small-molecule antagonist of mouse double minute 2 and adenoviruses encoding p53** *MOLECULAR CANCER THERAPEUTICS*
Graat, H. C., Carette, J. E., Schagen, F. H., Vassilev, L. T., Gerritsen, W. R., Kaspers, G. J., Wuisman, P. I., van Beusechem, V. W.
2007; 6 (5): 1552-1561
- **A conditionally replicating adenovirus with strict selectivity in killing cells expressing epidermal growth factor receptor** *VIROLOGY*
Carette, J. E., Graat, H. C., Schagen, F. H., Mastenbroek, D. C., Rots, M. G., Haisma, H. J., Groothuis, G. M., Schaap, G. R., Bras, J., Kaspers, G. J., Wuisman, P. I., Gerritsen, W. R., van Beusechem, et al
2007; 361 (1): 56-67
- **Cyclophosphamide increases transgene expression mediated by an oncolytic adenovirus in glioma-bearing mice monitored by bioluminescence imaging** *MOLECULAR THERAPY*

- Lamfers, M. L., Fulci, G., Gianni, D., Tang, Y., Kurozumi, K., Kaur, B., Moeniralm, S., Saeki, Y., Carette, J. E., Weissleder, R., Vandertop, W. P., van Beusechem, V. W., Dirven, et al
2006; 14 (6): 779-788
- **Genetic targeting of adenovirus vectors using a reovirus sigma 1-based attachment protein** *MOLECULAR THERAPY*
Schagen, F. H., Wensveen, F. M., Carette, J. E., Dermody, T. S., Gerritsen, W. R., van Beusechem, V. W.
2006; 13 (5): 997-1005
 - **Tissue inhibitor of metalloproteinase-3 expression from an oncolytic adenovirus inhibits matrix metalloproteinase activity In vivo without affecting antitumor efficacy in malignant glioma** *CANCER RESEARCH*
Lamfers, M. L., Gianni, D., Tung, C. H., Idema, S., Schagen, F. H., Carette, J. E., QUAX, P. H., van Beusechem, V. W., Vandertop, W. P., Dirven, C. M., Chiocca, E. A., Gerritsen, W. R.
2005; 65 (20): 9398-9405
 - **Replication-dependent transgene expression from a conditionally replicating adenovirus via alternative splicing to a heterologous splice-acceptor site** *JOURNAL OF GENE MEDICINE*
Carette, J. E., Graat, H. C., Schagen, F. H., El Hassan, M. A., Gerritsen, W. R., van Beusechem, V. W.
2005; 7 (8): 1053-1062
 - **Gene-directed enzyme prodrug therapy with carboxylesterase enhances the anticancer efficacy of the conditionally replicating adenovirus Ad Delta 24** *GENE THERAPY*
Oosterhoff, D., Pinedo, H. M., Witlox, M. A., Carette, J. E., Gerritsen, W. R., van Beusechem, V. W.
2005; 12 (12): 1011-1018
 - **Coxsackievirus and adenovirus receptor expression on primary osteosarcoma specimens and implications for gene therapy with recombinant adenoviruses** *CLINICAL CANCER RESEARCH*
Graat, H. C., Wuisman, P. I., van Beusechem, V. W., Carette, J. E., Gerritsen, W. R., Bras, J., Schaap, G. R., Kaspers, G. J.
2005; 11 (6): 2445-2447
 - **Conditionally replicating adenoviruses expressing short hairpin RNAs silence the expression of a target gene in cancer cells** *CANCER RESEARCH*
Carette, J. E., Overmeer, R. M., Schagen, F. H., Alemany, R., Barski, O. A., Gerritsen, W. R., van Beusechem, V. W.
2004; 64 (8): 2663-2667
 - **Cowpea mosaic virus: effects on host cell processes** *MOLECULAR PLANT PATHOLOGY*
Pouwels, J., Carette, J. E., Van Lent, J., Wellink, J.
2002; 3 (6): 411-418
 - **Coalescence of the sites of cowpea mosaic virus RNA replication into a cytopathic structure** *JOURNAL OF VIROLOGY*
Carette, J. E., Guhl, K., Wellink, J., van Kammen, A.
2002; 76 (12): 6235-6243
 - **Cowpea mosaic virus 32- and 60-kilodalton replication proteins target and change the morphology of endoplasmic reticulum membranes** *JOURNAL OF VIROLOGY*
Carette, J. E., Van Lent, J., MacFarlane, S. A., Wellink, J., van Kammen, A.
2002; 76 (12): 6293-6301
 - **Characterization of plant proteins that interact with cowpea mosaic virus '6OK' protein in the yeast two-hybrid system** *JOURNAL OF GENERAL VIROLOGY*
Carette, J. E., Verver, J., Martens, J., Van Kampen, T., Wellink, J., van Kammen, A.
2002; 83: 885-893
 - **Mutational analysis of the genome-linked protein of cowpea mosaic virus** *VIROLOGY*
Carette, J. E., Kujawa, A., Guhl, K., Verver, J., Wellink, J., van Kammen, A.
2001; 290 (1): 21-29
 - **Alfalfa mosaic virus replicase proteins P1 and P2 interact and colocalize at the vacuolar membrane** *JOURNAL OF VIROLOGY*
van der Heijden, M. W., Carette, J. E., Reinhoud, P. J., Haegi, A., Bol, J. F.
2001; 75 (4): 1879-1887
 - **Cowpea mosaic virus infection induces a massive proliferation of endoplasmic reticulum but not Golgi membranes and is dependent on de novo membrane synthesis** *JOURNAL OF VIROLOGY*

Carette, J. E., Stuiver, M., Van Lent, J., Wellink, J., Van Kammen, A. B.
2000; 74 (14): 6556-6563