

# Jan-Michael Y. Carrillo

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## Education

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| <b>University of Connecticut</b><br><i>Ph.D. Polymer Science</i>              | <b>Storrs, CT</b><br>2009               |
| <b>University of the Philippines</b><br><i>M.S. Environmental Engineering</i> | <b>Quezon City, Philippines</b><br>2003 |
| <b>University of the Philippines</b><br><i>B.S. Chemical Engineering</i>      | <b>Quezon City, Philippines</b><br>1998 |

## Research Experience

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| <b>Oak Ridge National Laboratory</b><br><i>Research Staff</i><br>Center for Nanophase Materials Sciences  | <b>Oak Ridge, TN</b><br>2019–Present |
| <b>Oak Ridge National Laboratory/University of Tennessee Knoxville</b><br><i>Research Scientist</i><br>Joint Institute for Computational Sciences | <b>Oak Ridge, TN</b><br>2015-2019    |
| <b>Oak Ridge National Laboratory</b><br><i>Postdoctoral Fellow</i><br>National Center for Computational Sciences                                  | <b>Oak Ridge, TN</b><br>2012-2014    |
| <b>University of Connecticut</b><br><i>Postdoctoral Fellow</i><br>Department of Physics   | <b>Storrs, CT</b><br>2010-2012       |

## Honors and Awards

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| <b>Georgia Tech Energy Frontier Research Center</b><br><i>Best Paper Award</i><br>"Unraveling the Dynamics of Aminopolymer/Silica Composites"                | 2016 |
| <b>International Data Corporation (IDC)</b><br><i>High Performance Computing Innovation Excellence Award</i><br>Large-scale Organic Photovoltaic Simulations | 2013 |
| <b>University of Connecticut</b><br><i>Doctoral Dissertation Fellowship</i>  | 2006 |
| <b>Philippine Board of Chemical Engineering</b><br><i>Topnotcher (5<sup>th</sup> place) Professional Licensure Examination</i>                               | 1998 |

## Online Profiles and Metrics

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<http://www.researcherid.com/rid/J-5422-2019>

<http://www.researcherid.com/rid/K-7170-2013>

<http://www.researcherid.com/rid/F-2251-2011>

## Publications

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G.-R. Huang, J. M. Carrillo, Y. Wang, C. Do, L. Porcar, B. Sumpter, and W.-R. Chen, "An exact inversion method for extracting orientation ordering by small-angle scattering," *Physical Chemistry Chemical Physics*, vol. 23, no. 7, pp. 4120–4132, 2021.

Z. Shen, J. Ma, J.-M. Y. Carrillo, W.-R. Chen, B. G. Sumpter, and Y. Wang, "Spatiotemporal mapping of mesoscopic liquid dynamics," *Physical Review E*, vol. 103, no. 2, p. 022609, 2021.

G. Rother, U. Tumuluri, K. Huang, W. T. Heller, S. Dai, J.-M. Carrillo, and B. G. Sumpter, "Interactions of an imine polymer with nanoporous silica and carbon in hybrid adsorbents for carbon capture," *Langmuir*, vol. 37, no. 15, pp. 4622–4631, 2021.

A. U. Chowdhury, D. Chang, Y. Xu, K. Hong, B. G. Sumpter, J.-M. Y. Carrillo, and B. Doughty, "Mapping the interfacial chemistry and structure of partially fluorinated bottlebrush polymers and their linear analogues," *Langmuir*, 2020.

S. Zhao, Y. Zhang, H. Pham, J.-M. Y. Carrillo, B. G. Sumpter, J. Nanda, N. J. Dudney, T. Saito, A. P. Sokolov, and P.-F. Cao, "Improved single-ion conductivity of polymer electrolyte via accelerated segmental dynamics," *ACS Applied Energy Materials*, 2020.

V. Bocharova, A.-C. Genix, J.-M. Y. Carrillo, R. Kumar, B. Carroll, A. Erwin, D. Voylov, A. Kisliuk, Y. Wang, B. G. Sumpter, *et al.*, "Addition of short polymer chains mechanically reinforces glassy poly (2-vinylpyridine)–silica nanoparticle nanocomposites," *ACS Applied Nano Materials*, vol. 3, no. 4, pp. 3427–3438, 2020.

D. Bolmatov, J.-M. Y. Carrillo, B. G. Sumpter, J. Katsaras, and M. O. Lavrentovich, "Double membrane formation in heterogeneous vesicles," *Soft Matter*, vol. 16, no. 38, pp. 8806–8817, 2020.

D. Bolmatov, D. Zav'yalov, J.-M. Carrillo, and J. Katsaras, "Fractal boundaries underpin the 2d melting of biomimetic rafts," *Biochimica et Biophysica Acta (BBA)-Biomembranes*, p. 183249, 2020.

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- D. Salatto, Y. T. Koga, Y. Bajaj, Z. Huang, B. M. Yavitt, Y. Meng, J.-M. Y. Carrillo, B. G. Sumpter, D. Nykypanchuk, T. Taniguchi, *et al.*, "Generalized protein-repellent properties of ultrathin homopolymer films," *Macromolecules*, vol. 53, no. 15, pp. 6547–6554, 2020.
- J.-M. Y. Carrillo, W.-R. Chen, Z. Wang, B. G. Sumpter, and Y. Wang, "Chain conformation of polymer melts with associating groups," *Journal of Physics Communications*, vol. 3, no. 3, p. 035007, 2019.
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A. Holewinski, M. A. Sakwa-Novak, J.-M. Y. Carrillo, M. E. Potter, N. Ellebracht, G. Rother, B. G. Sumpter, and C. W. Jones, "Aminopolymer mobility and support interactions in silica-pei composites for co2 capture applications: a quasielastic neutron scattering study," *The Journal of Physical Chemistry B*, vol. 121, no. 27, pp. 6721–6731, 2017.

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