


# Stanford

---



## Joseph Corbett Ferguson

Ph.D. Student in Mechanical Engineering, admitted Autumn 2018

 Curriculum Vitae available Online

---

### Bio

#### HONORS AND AWARDS

- NASA Early Career Public Achievement Medal, NASA (2019)
- NASA Group Achievement Award, NASA (2017)

#### LINKS

- Google Scholar: <https://scholar.google.com/citations?user=dJDMEvsAAAAJ&hl>
- LinkedIn: <https://www.linkedin.com/in/joseph-ferguson-46966958>

---

### Publications

#### PUBLICATIONS

- **Gas-surface interactions in lightweight fibrous carbon materials** *COMPUTATIONAL MATERIALS SCIENCE*  
Gopalan, K., Borner, A., Ferguson, J. C., Panerai, F., Mansour, N. N., Stephani, K. A.  
2022; 205
- **Continuum to rarefied diffusive tortuosity factors in porous media from X-ray microtomography** *COMPUTATIONAL MATERIALS SCIENCE*  
Ferguson, J. C., Borner, A., Panerai, F., Close, S., Mansour, N. N.  
2022; 203
- **Update 3.0 to "PuMA: The Porous Microstructure Analysis software", (PII:S2352711018300281)** *SOFTWAREX*  
Ferguson, J. C., Semeraro, F., Thornton, J. M., Panerai, F., Borner, A., Mansour, N. N.  
2021; 15
- **Anisotropic analysis of fibrous and woven materials part 2: Computation of effective conductivity** *COMPUTATIONAL MATERIALS SCIENCE*  
Semeraro, F., Ferguson, J. C., Acin, M., Panerai, F., Mansour, N. N.  
2021; 186
- **Pore-resolved simulations of porous media combustion with conjugate heat transfer** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Ferguson, J. C., Sobhani, S., Ihme, M.  
2021; 38 (2): 2127-2134
- **Anisotropic analysis of fibrous and woven materials part 1: Estimation of local orientation** *COMPUTATIONAL MATERIALS SCIENCE*  
Semeraro, F., Ferguson, J. C., Panerai, F., King, R. J., Mansour, N. N.  
2020; 178
- **Prediction of gas transport properties through fibrous carbon preform microstructures using Direct Simulation Monte Carlo** *INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER*  
Jambunathan, R., Levin, D. A., Borner, A., Ferguson, J. C., Panerai, F.  
2019; 130: 923-937

- **PuMA: the Porous Microstructure Analysis software** *SOFTWAREX*  
Ferguson, J. C., Panerai, F., Borner, A., Mansour, N. N.  
2018; 7: 81-87
- **Theoretical study on the micro-scale oxidation of resin-infused carbon ablators** *CARBON*  
Ferguson, J. C., Panerai, F., Lachaud, J., Mansour, N. N.  
2017; 121: 552-562
- **Micro-tomography based analysis of thermal conductivity, diffusivity and oxidation behavior of rigid and flexible fibrous insulators** *INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER*  
Panerai, F., Ferguson, J. C., Lachaud, J., Martin, A., Gasch, M. J., Mansour, N. N.  
2017; 108: 801-811
- **Modeling the oxidation of low-density carbon fiber material based on micro-tomography** *CARBON*  
Ferguson, J. C., Panerai, F., Lachaud, J., Martin, A., Bailey, S. C., Mansour, N. N.  
2016; 96: 57-65
- **Ingested RNA interference for managing the populations of the Colorado potato beetle, *Leptinotarsa decemlineata*** *PEST MANAGEMENT SCIENCE*  
Zhu, F., Xu, J., Palli, R., Ferguson, J., Palli, S. R.  
2011; 67 (2): 175-182