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| Jean-Christophe Bilheux  Spallation Neutron Source, Neutron Scattering Division, Oak Ridge National Laboratory  1 Bethel Valley Road, Oak Ridge, TN 37831-6475 · 865-406-1704  bilheuxjm@ornl.gov  <https://www.linkedin.com/in/jean-christophe-bilheux-6ba26686/> - https://jeanbilheux.pages.ornl.gov |
| My main interest is in developing tools to facilitate the workload of our neutron users. This means implementing intuitive programs to answer their needs and producing tutorials to demonstrate the use of those programs. |

# Experience

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| January 2007 – presentComputer scientist, oak Ridge national laboratory Development of neutron imaging workbench to normalize, visualize and analyze data (Matlab).  Development of set of Jupyter notebooks to normalize, visualize and analyze data (python).  Design of neutron imaging web site (HTML, CSS) – <https://neutronimaging.pages.ornl.gov>  Leading neutron imaging software effort at SNS and HFIR. |
| April 2005 – January 2007Post-doctoral, oak ridge national laboratory Development of 20+ tools (IDL, Java, Flex, perl) for all SNS beam lines to reduce, visualize and analyze their data.  Development of neutron imaging web site (HTML, CSS, jquery, javascript).  Organizer of IDL training workshop 2007. |
| June 2003 – april 2005post-doctoral research associate, oak ridge national laboratory Study of production of short-lived radioactive speciesjanuary 1999 – may 2003research assistant, oak ridge national laboratory Developed target system to produce short lived radioactive species |

# Education

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| May 2003ph.d. physics, universite de versailles-Saint-quentin-en-yvelines, france Minor in technologies for large scale instrumentation |
| june 1998M.S. Physics, universite de versailles-Saint-quentin-en-yvelines, france Minor in Mathematics june 1997B.S. Physics, universite de versailles-Saint-quentin-en-yvelines, france Minor in Mathematics |

# Skills

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| * Expertise in design of intuitive user interfaces * Expertise in image processing and analysis * Expertise in image reconstruction and visualization | * Python language |

# SYNERGISTIC ACTIVITIES

Committee member of the *Intenational Society for Neutron Radiography* – September 2018 present.

Reviewer of *Journal of Imaging* – 2017-present.

Member of SINE2020 – 2017-present.

# selected publications

1. [*Spontaneous Imbibition of a Wetting Fluid into a Fracture with Opposing Fractal Surfaces: Theory and Experimental Validation*](https://www.worldscientific.com/doi/10.1142/S0218348X19400012), Brabazon J.W., Perfect E., Gates C.H., Santodonato L., Dhiman I., Bilheux H.Z., **Bilheux J.**, McKay L.D. , *Fractals,* **27,** 1, (2019).
2. *In situ monitoring of hydrogen loss during pyrolysis of wood by neutron imaging* , Ossler F., Santodonato L., Warren J.M., Finney C.E., **Bilheux J**., Mills R.A., Skorpenske H.D., Bilheux H.Z., Proceedings of the Combustion Institute, (2019).
3. *The Nature of Electrochemical Delithiation of Li-Mg Alloy Electrodes: Neutron Computed Tomography and Analytical Modeling of Li Diffusion and Delithiation Phenomenon* , Zhang Y., Chandran R.K., Jagannathan M., Bilheux H.Z., **Bilheux J**., 2017, *Journal of the Electrochemical Society,* 164, 2, A28-A38 (2017).
4. *Mantid – Data analysis and visualization package for neutron scattering and μ SR experiments*, O. Arnold, **J. C. Bilheux**, J. M. Borreguero, A. Buts, S. I. Campbell et al., Nuclear Instruments and Methods in Physics Research, Section A, Vol. 764, 156-166 (2014).
5. *The CG-1D neutron imaging beamline at the Oak Ridge National Laboratory High Flux Isotope Reactor*, Lou Santodonato, Hassina Bilheux, Barton Bailey, **Jean Bilheux**, Phong Nguyen, Anton Tremsin, Doug Selby, Lakeisha Walker, Physics Procedia, Vol. 69, 104-108 (2015).
6. *A novel approach to determine post mortem interval using neutron radiography*, Hassina Z. Bilheux, Maria Cekanova, Arpad A. Vass, Trent L. Nichols, **Jean C. Bilheux**, Robert L. Donnell, Vincenzo Finochiarro, Forensic Science International, Vol. 251, 11-21 (2015).
7. *High Resolution Neutron Radiography and Tomography of Hydrided Zircaloy-4 Cladding Materials*, Tyler Smith, Hassina Bilheux, Holly Ray, **Jean-Christophe Bilheux**, Yong Yan, Physics Procedia, Vol. 69, 478-482 (2015).
8. *iMars (iMaging Analysis Research Software)*, **Jean-Christophe Bilheux**, Hassina Bilheux, Physics Procedia, Vol. 69, 343-348 (2015).
9. *Evaluation of segregation in Roman sestertius coins,* Susan N. Herringer, Krysta Ryzewski, Hassina Bilheux, **Jean-Chrstophe Bilheux**, Brian W. Sheldon, Journal of Materials Science, Vol. 53, Issue 3, 2161-2170 (2018).
10. *NeuNorm: Neutron Imaging Normalization Library*, **Jean Bilheux**, the Journal of Open Source Software (https://doi.org/10.21105/joss.00815) 2018.
11. *ImagingReso: A Tool for Neutron Resonance Imaging*, Yuxuan Zhang, **Jean Bilheux**, the Journal of Open Source Software (https://doi.org/10.21105/joss.00407) 2017.