The Soft Materials Group in the Chemical Sciences Division (http://www.ornl.gov/sci/csd/) at Oak Ridge National Laboratory is seeking exceptional candidates to fill a postdoctoral research position in polymer synthesis and characterization. The research will be centered on synthesis and experimental studies of multiphase block copolymers, polymer composites, transport membranes and 3-D printing. The research will entail precise synthesis of well-defined polymers and their characterization by SEC, NMR, DSC, SAXS, TEM, DMA, tensile, and rheology. This research will be complemented by collaborations and interactions with other polymer scientists and computational chemists, whose research is also focused on polymer synthesis, structural characterization, and simulations.

Major Duties/Responsibilities
* Design and synthesis of novel well-defined polymers using various polymerization techniques including controlled polymerization methods (anionic, cationic, ATRP, RAFT, NMP, ROMP) and other methods (conventional free radical or step growth).
* Characterization of polymers by standard methods including SEC, NMR, and DSC.
* Synthesis and characterization of novel monomers and post functionalization of polymers.
* Study the structure-property relationships of novel block copolymers and polymer composites for its morphology, dynamics, mechanical properties, and molecular transport using various techniques.
* Develop a formulation for 3D printing of novel polymers and composites by understanding its processability.
* Responsible for presenting and reporting research results and publishing scientific results in peer-reviewed journals in a timely manner.
* Ensure compliance with environment, safety, health and quality program requirements.
* Maintain strong commitment to the implementation and perpetuation of values and ethics.

Qualifications Required
* Ph.D. in Polymer Science, Chemistry, Chemical Engineering, Materials Science or closely related fields completed in the last 5 years.
* Must have a strong background in the design, synthesis, purification, and characterization of monomers and polymers. Experience with controlled polymerization method (e.g. familiar with at least two techniques among anionic, cationic, ATRP, RAFT, NMP, ROMP) is required.
* Must have knowledge of polymer science and hands on experience with polymers as well as knowledge and expertise on well-defined polymer synthesis and its morphological and mechanical characterization.
* Candidate must be self-motivated, have the ability to work independently, safety conscious, and participate creatively in refining projects directions.
* Candidate must have an excellent record of productive and creative research demonstrated by publications in peer-reviewed journals.
* The candidate must have good oral and written communication skills, and have the ability to work collaboratively in a team environment and interact effectively with a broad range of colleagues.

QUALIFICATIONS DESIRED:
* Expertise in 3D printing and processing of polymers is desired.
Work Directions and Interfaces
Appointments will initially be for 24 months with a possibility of an extension of up to 12 months. Initial appointments and extensions are subject to performance and availability of funding. Please provide a list of publications when applying for this position. Three letters of reference are required and can be uploaded to your profile or emailed directly to PSDrecruit@ornl.gov. Please include the title of the position in the subject line.

Please apply through https://www.ornl.gov/ornl/careers Postdoctoral Research Associate -Polymer Synthesis and Characterization / NB50552007