

# Call for Abstract Submissions

## The PPSN 2022 Workshop on Parallelism in Knowledge Transfer

To be held in conjunction with  
The 17<sup>th</sup> International Conference on Parallel Problem Solving from Nature (PPSN XVII)  
September 10-14, 2022  
Dortmund, Germany  
<https://ppsn2022.cs.tu-dortmund.de/>

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### Abstract

The utilization of knowledge from past experiences is common to the process of learning and to problem-solving by humans. Inspired by humans, researchers in computational intelligence have been developing *transfer learning* and *transfer optimization* techniques (TL&TO). TL refers to transfer of knowledge in machine learning techniques to improve performance under limited training data, whereas TO refers to such transfer for accelerating convergence rates in the search for optimal solutions under some criteria. In the last two decades various TL techniques have been studied and their effectiveness has been demonstrated over a large set of problems. This success has been followed with similar attempts in the area of TO, with a particular emphasis on population based bio-inspired optimization approaches.

The main goal of this workshop is to provide a meeting place for PPSN participants who are interested in research on bio-inspired TL&TO techniques. We aim to discuss current research on the development of such techniques and on their real-life applications. Finally, we expect to suggest future research directions for TL&TO.

The scope of this workshop includes topics such as:

- Single/Multi-objective search and optimization algorithms with transfer capability for continuous or combinatorial optimization including multi-modal optimization.
- Theoretical studies that enhance our understandings on transfer learning and optimization.
- Transfer learning and optimization using big data and data analytics.
- Transfer evolutionary optimization and learning for dynamic optimization problems.
- Transfer evolutionary optimization with domain adaptation and domain generalization.
- Hybridization of evolutionary computation and neural networks, and fuzzy systems for transfer learning and optimization.
- Hybridization of evolutionary computation and machine learning, information theory, statistics, etc., for transfer learning.
- TL&TO algorithms that are tailored for parallel processing
- Interactive TL&TO
- Real-world applications, e.g. expensive and complex optimization, text mining, computer vision, image analysis, face recognition, etc.

### Submission Instructions

We invite authors/participants to submit new ideas, positional statements, and reviews/summaries/comments on Parallelism in Knowledge Transfer.

Submissions should be in the form of extended abstracts (2-4 page abstract PDF file in LNCS format).

Please send your submission to [moshaiov@tauex.tau.ac.il](mailto:moshaiov@tauex.tau.ac.il)

### Important Dates

- Abstract Submission: **May 6, 2022**
- Notification of Acceptance: **May 23, 2022**
- PPSN 2022 Conference: **September 12-14, 2022**

For further information, please visit [https://www.eng.tau.ac.il/~moshaiov/Transfer\\_WS\\_Webpage.html](https://www.eng.tau.ac.il/~moshaiov/Transfer_WS_Webpage.html)