

# iCetus: A Semi-automatic Parallel Programming Assistant

Parinaz Barakhshan  
✉ parinazb@udel.edu  
Rudi Eigenmann  
✉ eigenman@udel.edu



Electrical and Computer Eng. Department  
University of Delaware



## Introduction

The iCetus tool is a new interactive parallelizer, in its early stages of development, providing users with a range of capabilities for the source-to-source transformation of C programs using OpenMP directives in shared memory machines.



## Motivations

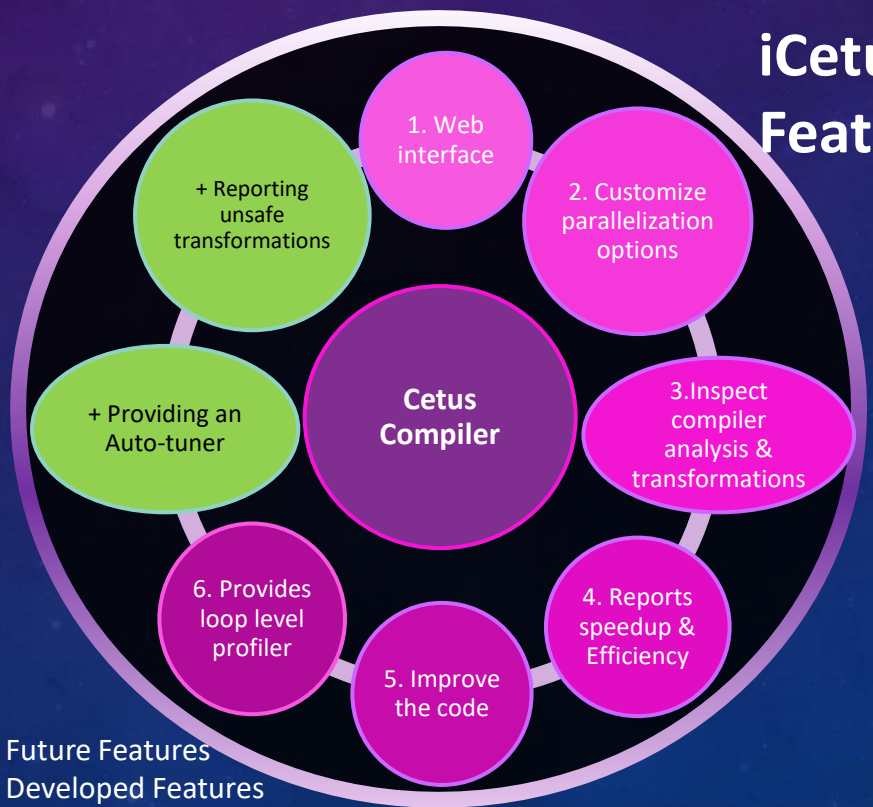
- ❖ To fully utilize the capabilities of a multi-core computer system through parallelization.
- ❖ Helping domain scientists with optimizing their computational and data-intensive applications.
- ❖ Equip a parallelizing compiler with the ability to interact with the users, involving the user into the decisions that compilers struggle with.

# Improve the performance of your C program using the interactive iCetus source-to-source parallelization tool

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## iCetus Features



[iCetus Features Explained](#)

## Observations

- ❖ Automated optimization processes that improve code performance are essential for beginners.
- ❖ Power users prefer customizable optimization processes and fine-grained control over transformations.

## Goals

- ❖ Addressing the key problems of Auto-parallelizers.
- ❖ Identifying key features of interactive parallelizers.
- ❖ Providing a learning tool to help users understand important program patterns and their parallelization.
- ❖ Advancing science by increasing the productivity of researchers who use CDI research.