

# Dr Hoa Bui



Dr Hoa Bui

Research Fellow

Theme 3

Hoa Bui is an applied mathematician who works on discrete nonlinear optimisation and operations research. Her primary research is to develop fast and exact algorithms backed up by rigorous mathematical theory for solving industrial-size optimisation problems.

She obtained her B.Sc. in Mathematics in 2016 and a PhD in Applied Mathematics in 2020. In 2020, she won the WIMSIG Maryam Mirzakhani Award from the Australian Mathematical Society.

She publishes research papers in Q1 journals such as European Journal of Operations Research, Journal of Optimization Theory and Applications, Journal of Combinatorial Theory - Series A.

Hoa is co-supervising PhD candidates Yingying Yang, Sandy Spiers and Ponpot Jartnillaphand

## Publications

- [Long-term maintenance optimization for integrated mining operations \(...\)](#) —

### Journal Article

[Yingying Yang](#)

**Authors:** Yingying Yang, Ryan Loxton, Andrew L. Rohl, Hoa T. Bui

2023-11-16

- [Cutting Plane Algorithms are Exact for Euclidean Max-Sum Problems \(...\)](#) —

### Journal Article

[Dr Hoa Bui](#)

**Authors:** Hoa T Bui, Sandy Spiers, Ryan Loxton

2023-09-17

- [Bayer digestion maintenance optimisation with lazy constraints and Benders decomposition \(...\)](#) —

### Journal Article

[Sandy Spiers](#)

**Authors:** Sandy Spiers, Hoa T. Bui, Ryan Loxton, Moussa Reda Mansour, Kylie Hollins, Richard Francis, Christopher Martindale, Yogesh Pimpale

2023-09-16

- [Cutting plane algorithms for nonlinear binary optimization \(...\)](#) —

### Journal Article

[Dr Hoa Bui](#)

**Authors:** Bui, Hoa; T Lin, Qun; Loxton, Ryan

2022-03-18

- [Single-Projection Procedure for Infinite Dimensional Convex Optimization Problems \(...\)](#) —

### Journal Article

[Dr Hoa Bui](#)

**Authors:** Hoa T. Bui\* Regina S. Burachik† Evgeni A. Nurminski‡ Matthew K. Tam

2022-10-21

- [An exact cutting plane method for solving p-dispersion-sum problems \(...\)](#) —

### Journal Article

[Sandy Spiers](#)

**Authors:** Sandy Spiers, Hoa T. Bui, Ryan Loxton

2022-07-22

- [The Impact of Changes in Resolution on the Persistent Homology of Images \(...\)](#) —

She is currently developing an optimisation-based platform for maintenance scheduling for her industry partners.



LinkedIn

## Conference Publishing

[Dr Hoa Bui](#)

**Authors: Teresa Heiss, Sarah Tymochko, Brittany Story, Adeline Garin, Hoa Bui, Bea Bleile, and Vanessa Robins**

2022-01-13

- [The linkedness of cubical polytopes: The cube \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Hoa T. Bui, Guillermo Pineda-Villavicencio, Julien Ugon**

1970-01-01

- [Geometric and Metric Characterizations of Transversality Properties \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Hoa T. Bui, Nguyen Duy Cuong, Alexander Y. Kruger**

2020-03-05

- [Extremal Principle: Nonlinear Characterizations of Non-Intersection Properties \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Dr Hoa Bui, Prof. Alex Kruger**

2020-06-22

- [A Note on the Finite Convergence of Alternating Projections \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Hoa Bui, Ryan Loxton, Asghar Moeini**

2021-05-09

- [Connectivity of cubical polytopes, Journal of Combinatorial Theory \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Hoa Bui, Guillermo Pineda-Villavicencio, Julien Ugon**

2019-08-06

- [Some new characterizations of intrinsic transversality in Hilbert spaces \(...\)](#) —

Journal Article

[Dr Hoa Bui](#)

**Authors: Nguyen Hieu Thao, Hoa Bui, Nguyen Duy Cuong and Michel Verhaegen**

2020-02-12

## Presentations

- [Optimisation model for sixteen-week Maintenance Planning in Alcoa \(...\)](#) —



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2021-02-12

- [On outer approximation method for nonconvex binary optimization \(...\)](#) —



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2023-07-10

- [Optimisation platform for shutdown maintenance scheduling \(...\)](#) —



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### **Theme 3**

2022-10-07

- [Scheduling Tool for Furnace Outages at Kwinana Nickel Refinery by Hoa Bui \(...\)](#) —



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### **Theme 3**

2022-03-11

- [Optimisation Methods for Maintenance Scheduling in the Mining industry \(...\)](#) —



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**Theme 3**

2022-07-20

- [Master Class - Solution Methods for Practical Scheduling Models \(...\)](#) —



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2021-04-15

- [NSW ANZIAM 2021 Mid-year Conference - Optimisation Methods for Maintenance Scheduling in the Mining Industry. \(...\)](#) —



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2021-07-09

- [Connectivity and Linkedness of the Graph of Cubical Polytopes \(...\)](#) —



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### Theme 3

2020-07-09

- [Zero Duality Gap Conditions via Abstract Convexity \(...\)](#) —





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2020-07-08

## Awards and Prizes

- [Australian Mathematical Society Lift-off Fellowship \(...\)](#)
- [AustMS WIMSIG Maryam Mirzakhani Award \(...\)](#)

## Tools

- [Schedule Optimisation Tools \(...\)](#) —



2020-01-31

Tools for common schedule optimisation problems

**Theme 3 Theme 5**