

郭鹏辉 · Penghui Guo

Nanjing University of Aeronautics and Astronautics (NUAA)
29 Jiangjun Avenue
Nanjing Jiangsu, 211106 China

Email: guopenghui@outlook.com
Homepage: <https://guo.ph>
Updated: 2021-04-25

EDUCATION	<p>Ph.D. Candidate, Management Science and Engineering Nanjing University of Aeronautics and Astronautics ◦ Advisor: Prof. Jianjun Zhu ◦ College of Economics and Management ◦ Concentrations: Disaster and Emergency Operations Management</p> <p>Visiting Student, Industrial Engineering Texas State University ◦ Advisor: Dr. Zhijie (Sasha) Dong ◦ UTIL Lab at Ingram School of Engineering (https://dong.wp.txstate.edu/) ◦ Research project: <i>A stochastic optimization approach for prepositioning relief supplies considering lateral transshipment</i>^[3]. ◦ Funded by Nanjing University of Aeronautics and Astronautics.</p> <p>M.S., Management Science and Engineering Nanjing University of Aeronautics and Astronautics ◦ Advisor: Prof. Jianjun Zhu ◦ College of Economics and Management ◦ Dissertation: <i>Models and Algorithms for Post Disaster Rescue Route Optimization</i></p> <p>B.S., Industrial Engineering Henan Polytechnic University ◦ School of Energy Science and Engineering ◦ Dissertation: <i>Analysis and Optimization of the Production Organization Process of a Beverage Manufacturer</i></p>	<p>Apr. 2019 - present Nanjing, China</p> <p>Sep. 2019 - Dec. 2019 San Marcos, U.S.</p> <p>Sep. 2016 - Apr. 2019 Nanjing, China</p> <p>Sep. 2011 - Jul. 2015 Jiaozuo, China</p>
RESEARCH INTERESTS	<ul style="list-style-type: none">• Disaster and Emergency Operations Management: mathematical modeling in disasters and public emergencies operations management incorporating the uncertainty.• Optimization Modeling and Algorithms: especially stochastic optimization and integer optimization.• Data-driven modeling in the public-health emergency.	
SKILLS	50k+ lines of code in Python (including the package <i>gurobipy</i> for interacting with Gurobi , <i>Pyomo</i> for optimization modeling, Matplotlib for scientific visualization, and <i>Django</i> for web development). Solid knowledge of modeling and algorithms for deterministic integer programming and stochastic programming . Working proficiency in typesetting by \LaTeX . Native in Chinese Mandarin.	
RESEARCH EXPERIENCE	<p>Integrated Optimization for Large-scale Natural Disaster Emergency Rescue Location-Routing-Allocation Problem ◦ Project supported by <i>Foundation of Graduate Innovation Center in Nanjing University of Aeronautics and Astronautics</i>.</p>	<p>Jun. 2017 - Nov. 2018</p>
PUBLICATIONS	<p>[3] Guo,P., Dong,Z.S.*, Zhu,J., Hu,S.(working paper). The Nested Logic-based Benders Decomposition for Stochastic Disaster Response Planning with Inter-facility Coordination. ◦ Methodology: two-stage stochastic programming, vehicle routing problem, (nested) logic-based Benders decomposition.</p>	

[2] **Guo,P.**, Zhu,J.* , Wang,H.(2019). Location-routing-allocation Problem with Consolidated Shipping of Heterogeneous Relief Supplies in Post-disaster Rescue. *Systems Engineering - Theory & Practice*, 39(9),2345-2360. (Chinese journal)

[1] **Guo,P.**, Zhu,J.* , Wang,H.(2018). Multi-location Emergency Rescue Route Optimization under the Condition of Natural Disaster Considering Safety and Time Cost. *Systems Engineering*, 36(6),62-70. (Chinese journal)

HONORS AND AWARDS

- **2nd Price**, the 2nd National Innovation Competition of Industrial Engineering and Lean Management (**top 3%** of participants) May 2019
 - Name of the Project: *Models and Algorithms for Emergency Rescue Location-Routing Optimization with Stochastic Demand*
- **Outstanding Postgraduate Student** of Nanjing University of Aeronautics and Astronautics (top 20% of postgraduate student) Jul. 2019
- **3rd Price**, the 15th China Post-Graduate Mathematical Contest in Modeling (top 30% of participants) Dec. 2018
- **National Scholarship** for Graduate Students by Ministry of Education of the P.R.C (**top 0.5%** of graduate student) Oct. 2018
- **3rd Price**, the 2018 NUAA Post-Graduate Mathematical Contest in Modeling (top 30% of participants) Jun. 2018
- **3rd Price**, the 14th China Post-Graduate Mathematical Contest in Modeling (top 30% of participants) Dec. 2017

OPEN SOURCE ACTIVITIES

- VRP2E** <https://github.com/phguo/VRP2E> Jan. 2018
 - A coevolutionary-algorithm solver for multi-objective two-echelon vehicle routing problems.
- LRP2E-instances** <https://github.com/phguo/LRP2E-instances> Jan. 2018
 - Instances data for 2-echelon vehicle routing problem (VRP2E) with resource constraints.

REFEREES

- Prof. Jianjun Zhu**, Email: zhujianjun@nuaa.edu.cn
 - My M.S. and Ph.D. advisor.
- Dr. Zhijie (Sasha) Dong**, Email: sasha.dong@txstate.edu
 - Advisor during my visiting Texas State University.