

Gino Lim

<http://www.ie.uh.edu/faculty/lim>



- Ph.D. (2002) University of Wisconsin – Madison
- Chairman, Department of Industrial Engineering, UH 2011 – present
- Organizing Committee INFORMS, IISE, AHFE, POMS, Hurricane Conference
- Program Chair 2017 INFORMS Annual Conference, Houston, TX
- Program Chair 2012 ISERC Annual Meeting, Orland, FL
- Board Member INFORMS Board of Directors (2018-2019)
- Vice President Chapters/Fora of INFORMS (2018-2019)
- Chair CIEADH oversight committee for ISERC conference
- Chair Doctoral colloquium, ISERC conference
- Chair Texas Industrial Engineer Life Time Achievement Awards Committee

Awards & Honors - Gino Lim

- Fellow, Institute of Industrial and Systems Engineers
- Hari and Anjali Agrawal Faculty Fellow, UH 2008 – present
- Outstanding Teacher Award, UH College of Engineering 2007 & 2010
- Outstanding Instructor Award, UH Industrial Engineering 2005, 2006, & 2009
- Volunteer Service Award at the Meritorious level, INFORMS, 2016
- Moving Spirit Award, INFORMS, 2006
- Best Paper Award, Energy Systems Division, ISERC 2017
- (2nd place) Best Paper Award, Energy Systems Division, ISERC 2018
- Pierskalla Best Paper Award, INFORMS, 2002

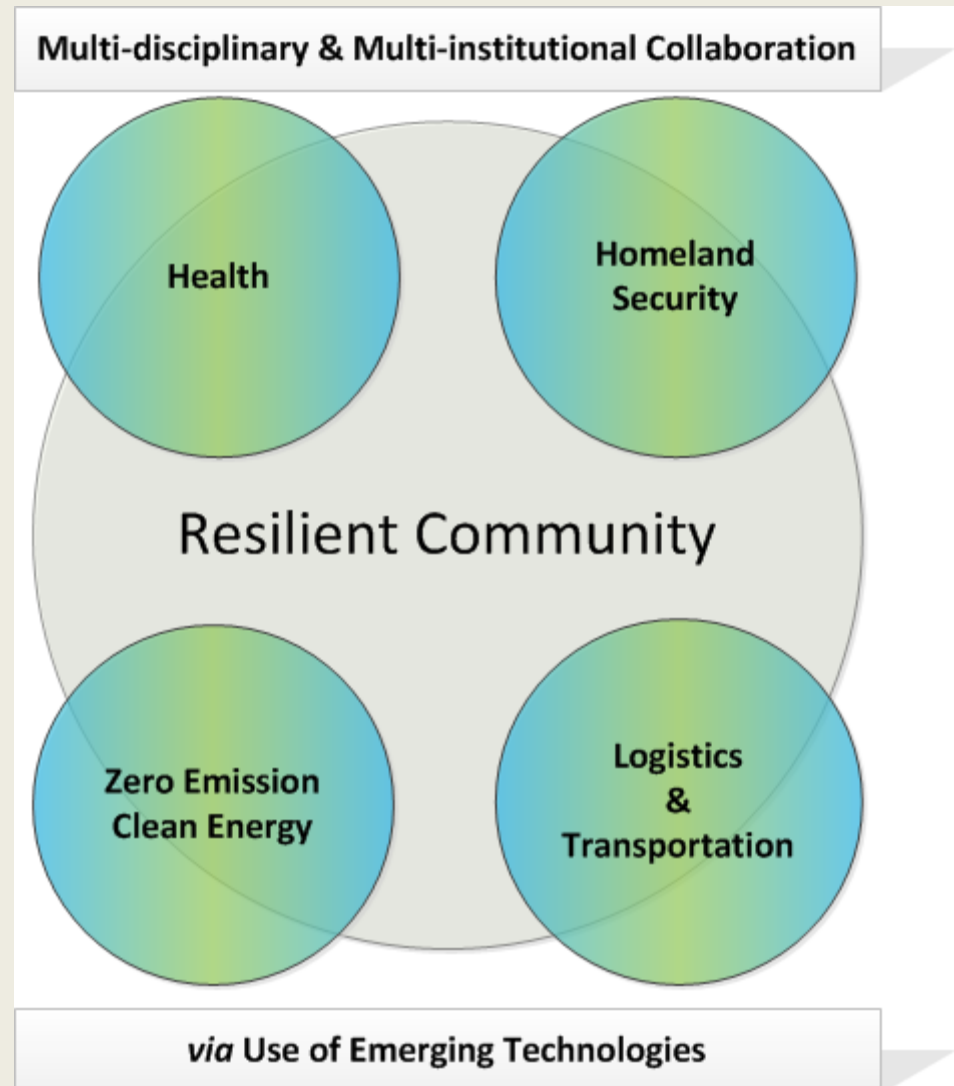
Research

Area of Expertise

- Large Scale Optimization
- Models under Uncertainty
- Decomposition Algorithms
- Parallel Computation

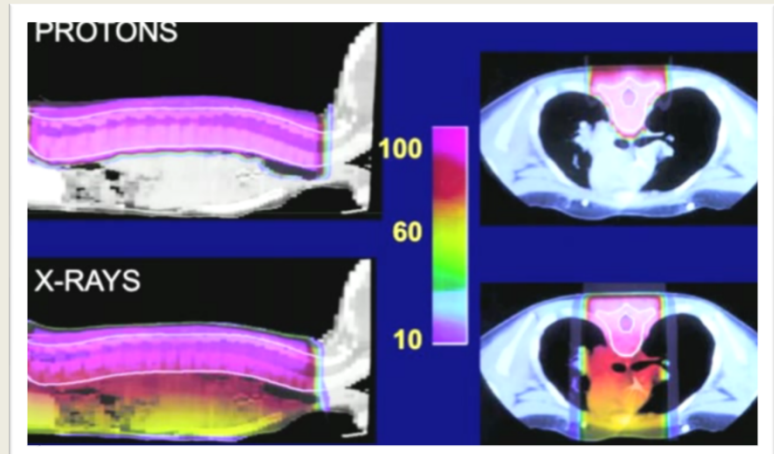
Areas of Research Interests

- Resiliency & Sustainability
- Health
- Logistics & Transportation
- Emerging Technologies (drones, driverless vehicles)
- Clean Energy & Zero Emission



Cancer Treatment

- Radiation Therapy
 - Photon, ion, heat
 - Proton
 - Intensity modulated proton therapy (IMPT)



Robust Optimization for Intensity Modulated Proton Therapy Plans with Multi-Isocenter Large Fields

Li Liao, MS¹; Gino J. Lim, PhD¹; Yupeng Li, MS²; Juan Yu, PhD^{3,4}; Narayan Sahoo, PhD³; Heng Li, PhD³; Michael Gillin, PhD³; X. Ronald Zhu, PhD³; Anita Mahajan, MD⁵; Steven J. Frank, MD⁵; David R. Grosshans, MD, PhD⁵; Quynh-Nhu Nguyen, MD⁵; Daniel Gomez, MD⁵; and Xiaodong Zhang, PhD³

- Immunotherapy

A chance-constrained programming framework to handle uncertainties in radiation therapy treatment planning

Maryam Zaghian^a, Gino J. Lim^{b,*}, Azin Khabazian^b

- Personalized treatment planning

A risk-based modeling approach for radiation therapy treatment planning under tumor shrinkage uncertainty

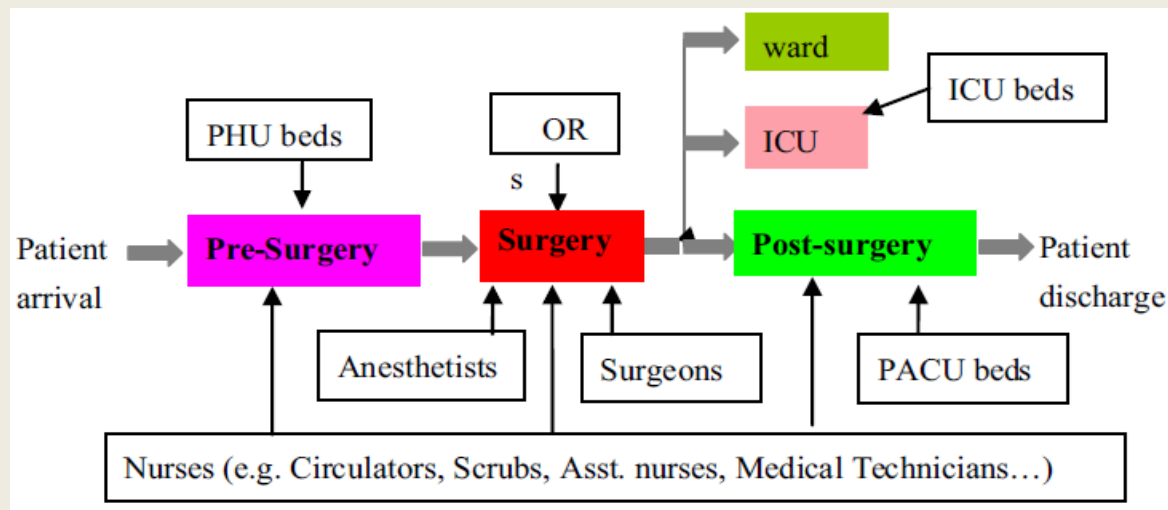
Gino J. Lim^{a,*}, Laleh Kardar^b, Saba Ebrahimi^a, Wenhua Cao^c

- Biological effects of radiation

Robust optimization to reduce the impact of biological effect variation from physical uncertainties in intensity-modulated proton therapy

Xuemin Bai¹, Gino Lim¹, David Grosshans², Radhe Mohan³ and Wenhua Cao^{3,4}

Operating Room Scheduling



Operations Research for Health Care 10 (2016) 35–48



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Operations Research for Health Care

journal homepage: www.elsevier.com/locate/orhc



Nurse scheduling with lunch break assignments in operating suites



Gino J. Lim^{a,*}, Arezou Mobasher^b, Jonathan F. Bard^c, Amirhossein Najjarbashi^d

A variability reduction method for the operating room scheduling problem under uncertainty using CVaR

Amirhossein Najjarbashi, Gino J. Lim^{*}



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Artificial Intelligence in Medicine

journal homepage: www.elsevier.com/locate/aiim

A short-term operating room surgery scheduling problem integrating multiple nurses roster constraints

Wei Xiang^{a,*}, Jiao Yin^a, Gino Lim^b



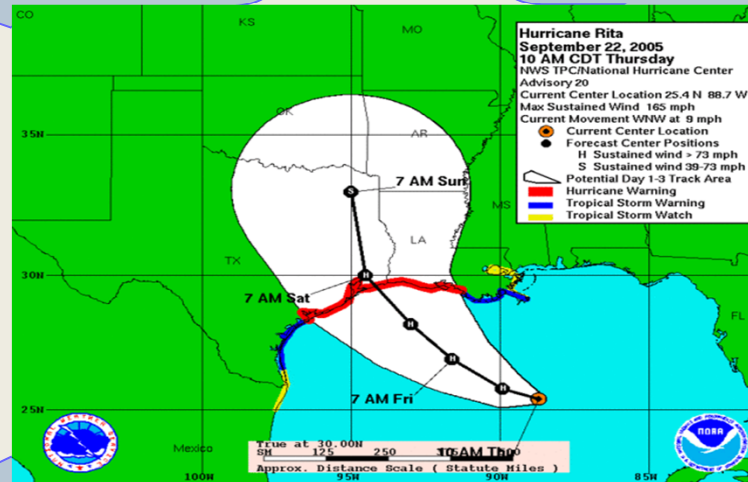
Disaster Planning & Management

Planning: Preparation, Mitigation

- What could happen?
- What would be the consequences?
- Can this be ameliorated?
- What resources are needed?
- Where do the resources need to be?
- What are the roles and responsibilities?
- What are the key actions?

Training

- What scenarios should we train for?
- What will first responders, first receivers, management, the community... experience?
- What resources will they have?
- What environment will they find?
- What tasks will they be performing?
- How will evaluation and feedback occur?



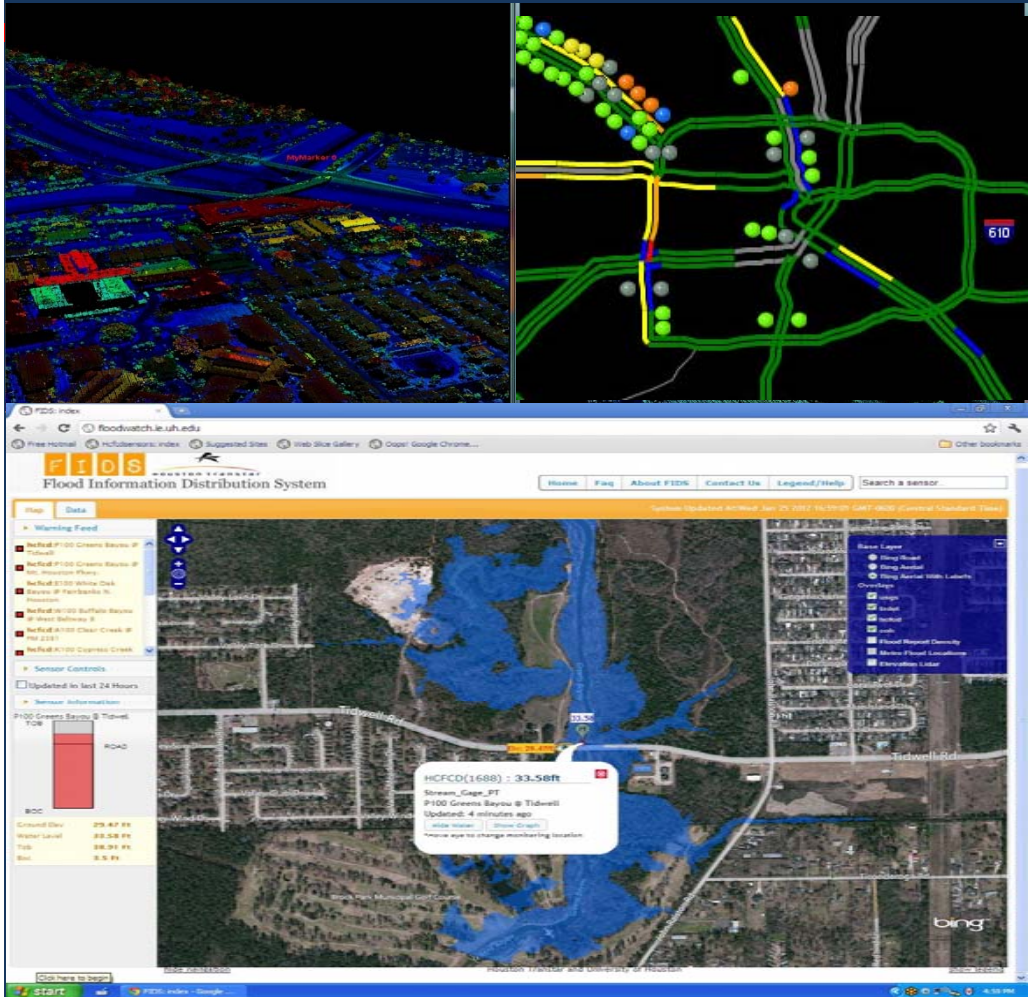
Recovery

- What happened?
- What is the right follow-up?
- What are the lessons learned?
- What resources require replenishment?
- What are the targets and schedule for returning to normalcy??

Response

- What is the situation? Do plans match?
- How should the plan be adapted?
- Are tasks, roles & responsibilities being picked up?
- Are the plans being carried out?
- Are the plans working?

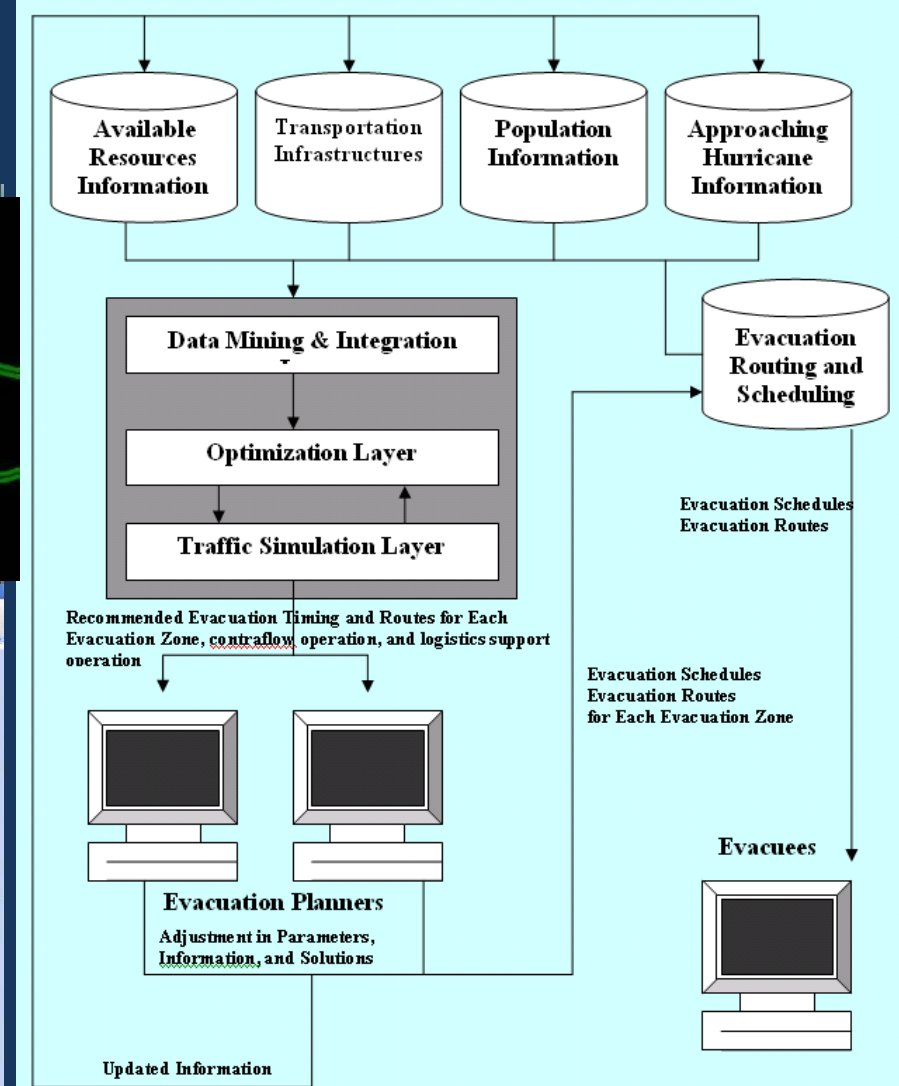
Decision Support System Framework



IIE Transactions (2015) 47, 50–63
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ISSN: 0740-817X print / 1545-8830 online
DOI: 10.1080/0740817X.2014.905736

Reliability analysis of evacuation routes under capacity uncertainty of road links

Gino J. Lim^{1,*}, Mukesh Rungta² and M. Reza Baharnemati³



European Journal of Operational Research

ELSEVIER

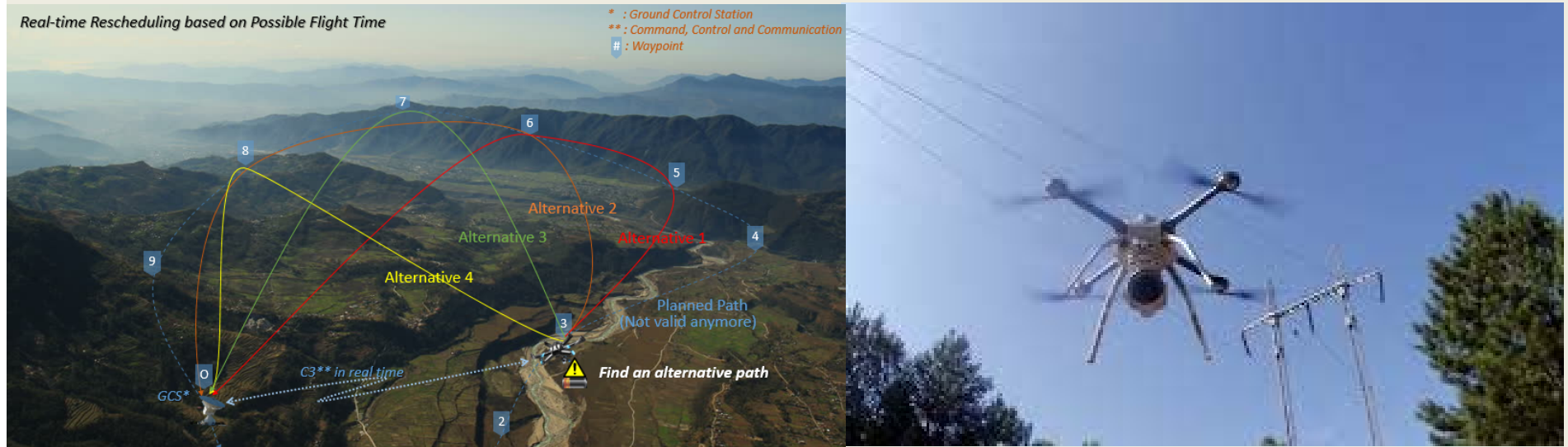
journal homepage: www.elsevier.com/locate/ejor

Innovative Applications of O.R.

A capacitated network flow optimization approach for short notice evacuation planning

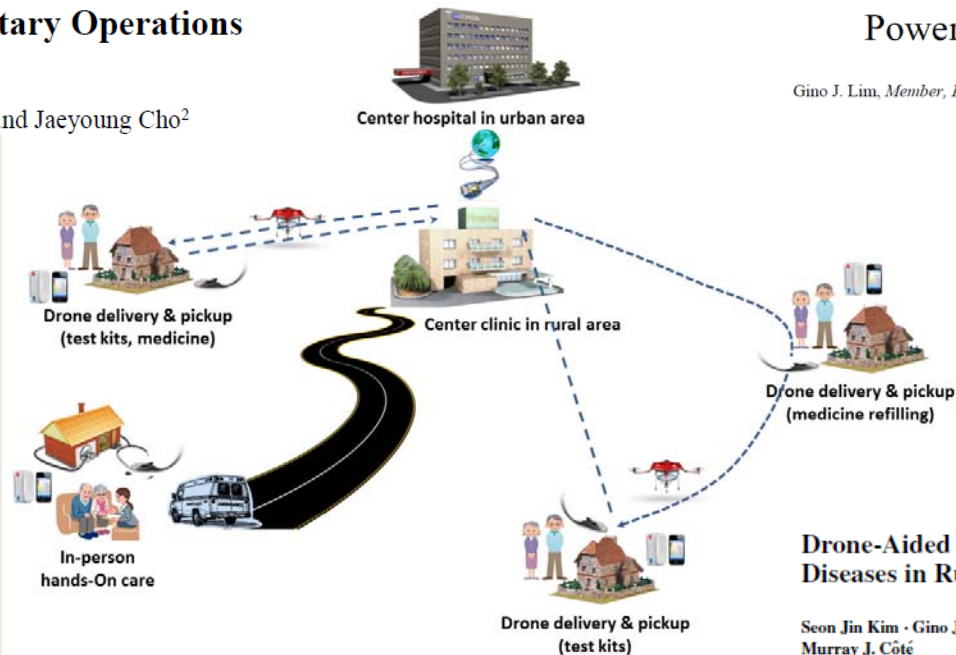
Gino J. Lim^{a,*}, Shabnam Zangeneh^b, M. Reza Baharnemati^a, Tiravat Assavapokee^c

Drone Placement and Routing



Drone Relay Stations for Supporting Wireless Communication in Military Operations

Seon Jin Kim¹, Gino J. Lim¹ and Jaeyoung Cho²



Multi-UAV Pre-positioning and Routing for Power Network Damage Assessment

Gino J. Lim, *Member, IEEE*, Seonjin Kim, Jaeyoung Cho, Yibin Gong, and Amin Khodaei, *Member,*



Drone-Aided Healthcare Services for Patients with Chronic Diseases in Rural Areas

Seon Jin Kim · Gino J. Lim · Jaeyoung Cho · Murray J. Côté

Power Production Planning

Integrated Microgrid Expansion Planning in Electricity Market Under Uncertainty

Aida Khayatian, *Student Member, IEEE*, Masoud Barati, *Member, IEEE*, and Gino J. Lim *Member, IEEE*

Market-Based and Resilient Coordinated Microgrid Planning Under Uncertainty

Aida Khayatian

Masoud Barati

Gino J Lim

⇒ Our approach: Integrating

- + Microgrid Expansion Planning
- + Generation Expansion Planning
- + Transmission Expansion Planning

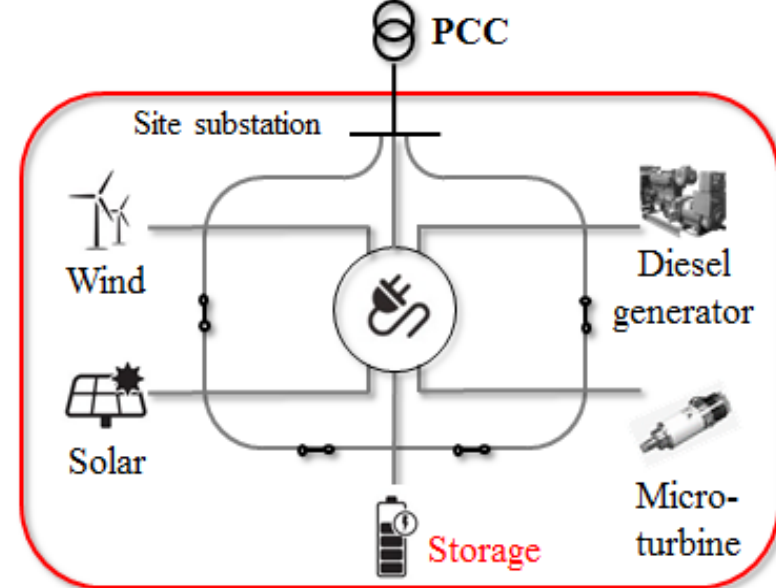
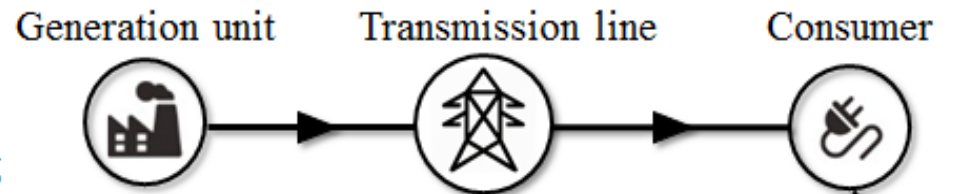
⇒ Our contribution: Main factors

1. Power outage of system
2. Cost of system
3. Environmental emission
4. Rural electrification
5. Market competition

→ Quantifying
→ Policymaking

⇒ Modeling and solution approach:

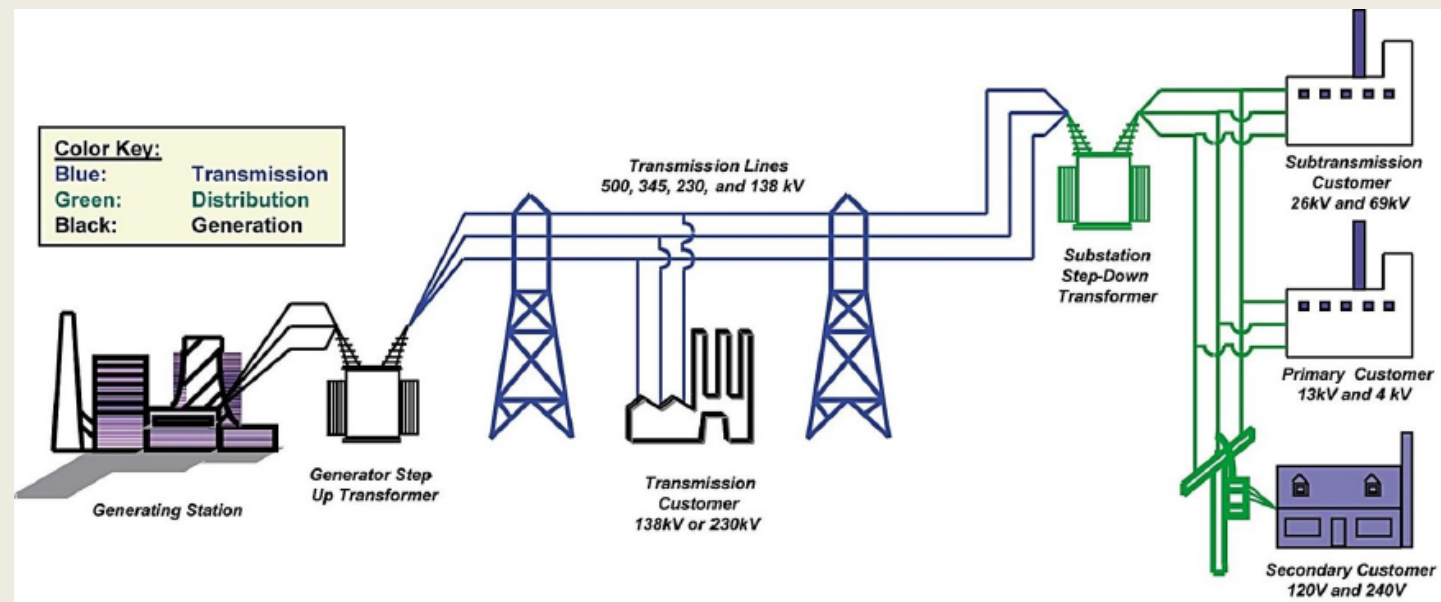
2-stage stochastic integer programming
Benders decomposition



Microgrid [U. S. Department of Energy]:

- Group of interconnected loads and DERs.
- Islanded or grid-connected mode [IEEE 1547.4].

Power Restoration Optimization



A Parallel Sectionalized Restoration Scheme for Resilient Smart Grid Systems

Saeedeh Abbasi, *Student Member, IEEE*, Masoud Barati, *Member, IEEE*, and Gino J. Lim *Member, IEEE*

A GPP-based Sectionalization toward a Fast Power Transmission System Restoration

Saeedeh Abbasi¹, Masoud Barati², and Gino Lim¹,

A Multi-objective MPEC Model for Disaster Management of Power System Restoration

Saeedeh Abbasi, Masoud Barati, Gino Lim
University of Houston
Houston, TX 77004



Smart Ports

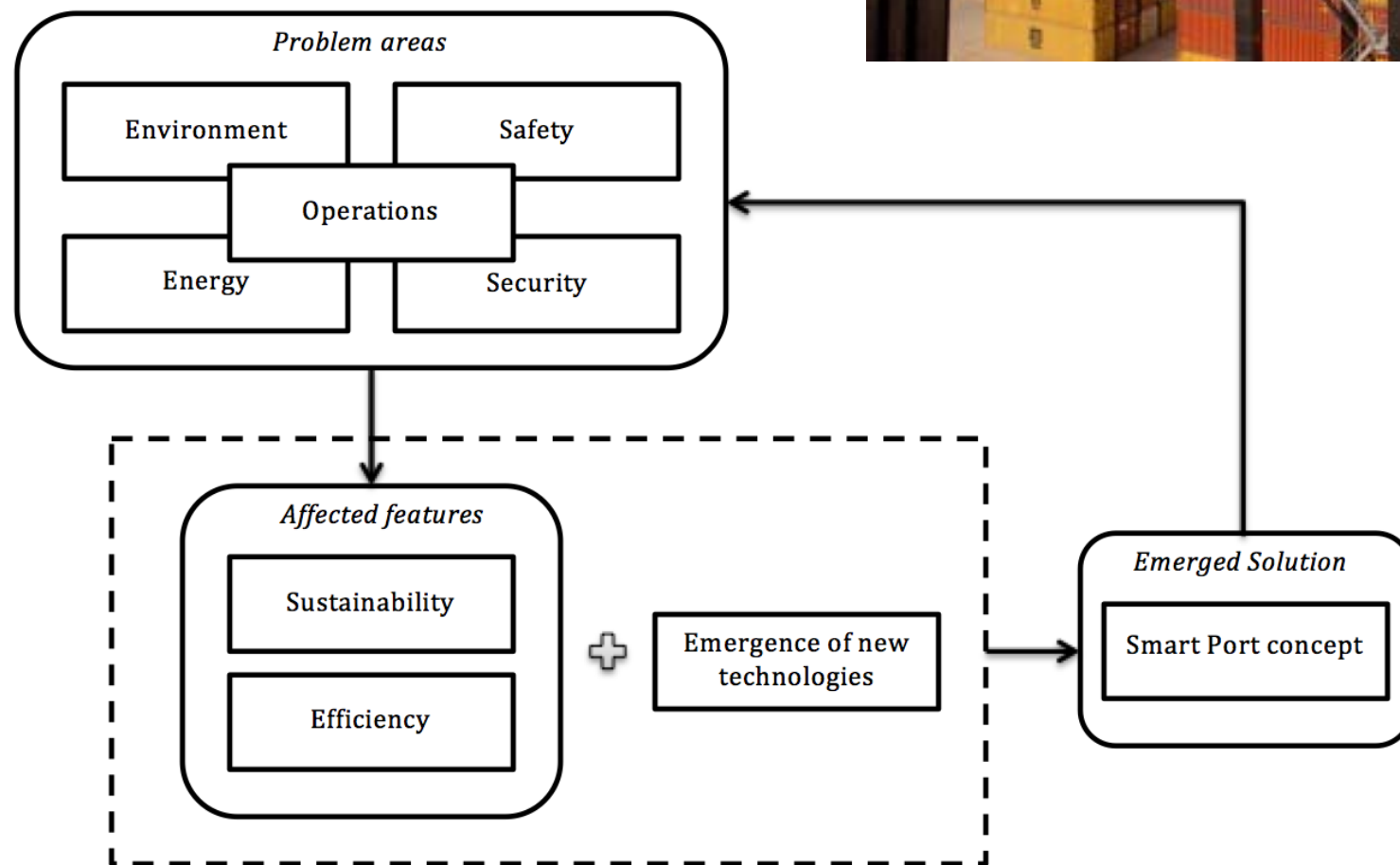
A Framework for Building a Smart Port and Smart Port Index

Anahita Molavi¹, Gino J. Lim², and Bruce Race³

¹Department of Industrial Engineering, University of Houston

²Department of Industrial Engineering, University of Houston

³College of Architecture and Design, University of Houston



<http://e2map.egr.uh.edu>

E²MAP FOR NATURAL DISASTERS

UNIVERSITY of HOUSTON | UH Emergency Evacuation Management
and Planning for Natural Disaster

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Emergency Incident Management Seminar

Posted on April 21, 2015

Emergency Incident Management - History, Purpose and Current Practice The Seminar took place on April 17, 2015. The seminar was about the methods currently used by responders to maintain control and...



Informs Student Chapter

Posted on April 16, 2015

Event Date & Time: 04/24/2015 - 9:00am to 4:00pm

Contact Us

E2Map for Natural Disasters
University of Houston
4800 Calhoun Rd.
Houston, TX 77204

Gino J. Lim, Ph.D.
713-743-4194
ginolim@uh.edu