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	办公电话	01062333625	办公地点	冶金生态楼613房间
	主讲课程	冶金流程工程学与智能制造，钢铁冶金学（2），冶金流程物流管制		
	科研方向	冶金流程工程学，钢铁制造流程整体优化，系统节能		
教育及工作经历	<p>1981.09—1985.06 北京科技大学(原北京钢铁学院)冶金系学习,获学士学位;</p> <p>1985.09—1988.06 北京科技大学(原北京钢铁学院)冶金系学习,获硕士学位;</p> <p>1988.07—1990.02 武汉科技大学(原武汉钢铁学院)炼钢教研室工作,助教;</p> <p>1990.03—1991.01 武汉钢铁公司第二炼钢厂,挂职工作;</p> <p>1991.02—1993.08 武汉科技大学(原武汉钢铁学院)炼钢教研室工作,讲师;</p> <p>1993.09—1996.11 北京科技大学冶金学院学习,获博士学位;</p> <p>1996.12—1998.12 北京科技大学材料工程专业工作,博士后,副研究员;</p> <p>1999.01—2013.08 北京科技大学冶金与生态工程学院学院钢铁冶金系,副教授;</p> <p>(其间: 1999.4—1999.10 瑞典 MEFOS,高级访问学者; 2012.2—2012.08 加拿大 LONGHUA 高级访问学者。);</p> <p>2013.09—现在: 北京科技大学冶金与生态工程学院工作,教授、博士研究生导师。</p>			
	<p><b>(一) 主要项目:</b></p> <p>1. 自然科学基金项目(项目编号: 51674030 ): 面向工序装置尺度的钢铁制造流程一体化智能调度建模与仿真,2017年-2020年,项目负责人;</p> <p>2. 国家重点研发计划课题(课题编号: 2016YFB0601301): 钢铁生产流程工序匹配与系统节能,课题负责人;</p> <p>3. 国家重点研发计划课题(课题编号: 2017YFB0304001): 钢铁流程综合能效提升及绿色化智能化协同机制,技术负责人;</p> <p><b>(二) 论著及教材</b></p> <p>4. 教材:《冶金流程工程学基础教程》;</p> <p><b>(三) 获奖</b></p> <p>5. 基于“卓越计划”冶金工程型精英育成的专业主干课程教学模式研究与实践,北京市高等教学成果一等奖,2017;</p> <p>6. 唐钢建筑用长材高效率、低成本洁净钢制造平台,冶金科学技术奖二等奖,2011;</p>			

代表性成果  
(包含论文、著作、  
获奖、专利、项目等)

(四) 软件著作权

7. 2009SRBJ7427, 钢铁制造流程一体化动态调度软件, 软件著作权;
8. 2009SRBJ7424, 钢铁制造流程精准设计及虚拟仿真平台软件, 软件著作权;

(五) 近四年主要论文

9. Recovery rates of iron, nickel, and chromium via iron-bath reduction of stainless steel dust briquettes based on corundum crucible erosion balance analysis. *Journal of Iron and Steel Research International*, 2018, 25(3), 320-329.
10. Wear Debris Classification of Steel Production Equipment using Feature Fusion and Case-based Reasoning. *ISIJ International*, 2018, 58(7):1293-1299.
11. Combustion performance of nozzles with multiple gas orifices in large ladles for temperature uniformity. *Journal of Iron and Steel Research International*, 2018, 25(1), 387-397.
12. An Improved CBR Model Based on Mechanistic Model Similarity for Predicting End Phosphorus Content in Dephosphorization Converter. *Steel Research International*, 2018, 89(6):1800063.
13. Stainless Steel Tailings Accelerated Direct Carbonation Process at Low Pressure: Carbonation Efficiency Evaluation and Chromium Leaching Inhibition Correlation Analysis. *Energy*, 2018, 155: 772-781.
14. Recognition of Plate Identification Numbers Using Convolution Neural Network and Character Distribution Rules. *ISIJ International*, 2019, 59(11):2044-2051.
15. Structural Optimization of the Production Process in Steel Plant Based on Flexsim Simulation. *Steel Research International*, 2019, 90(10), 1900201.
16. First-principles study on stability, electronic, and mechanical properties of La - C and Ce - C binary compounds. *Journal of Iron and Steel Research International*, 2019, 26(7):771 - 778.
17. Case-based reasoning model based on attribute weights optimized by genetic algorithm for predicting end temperature of molten steel in RH. *Journal of Iron and Steel Research International*, 2019, 26(6):585-592.
18. Comparison of Energy Consumption and CO<sub>2</sub> Emission for Three Steel Production Routes—Integrated Steel Plant Equipped with Blast Furnace, Oxygen Blast Furnace or COREX. *Metals*, 2019, 9(3), 364.
19. Influence rule of downtime on heat transfer in converters. *Journal of Iron and Steel Research International*, 2019, 26(5), 251-258.
20. Charge Plan Model for Steelmaking-Continuous Casting Section. *Metals*, 2020, 10(9):1196.
21. A study on DAA-based crane scheduling models for steel plant. *International Journal of Production Research*, 2020, 59(7):1-11.
22. Simulation-based solution for a dynamic multi-crane-scheduling problem in a steelmaking shop[J]. *International Journal of Production Research*, 2020, 58(22): 6970-6984.
23. 炼钢车间多天车动态调度仿真方案[J]. *东北大学学报: 自然科学版*, 2020, 41(12): 1699-1707,
24. Steel scrap melting model for a dephosphorisation basic oxygen furnace. *Journal of Iron and Steel Research International*, 2020, 27(8):972 - 980.
25. Case-based reasoning method based on mechanistic model correction for predicting endpoint sulphur content of molten iron in KR desulphurization. *Ironmaking & Steelmaking*, 2020, 47(7):799-806.
26. Closed-circulating CO<sub>2</sub> sequestration process evaluation utilizing wastes in steelmaking plant. *Science of The Total Environment*, 2020, 738(53):139747.

代表性成果 (包含论文、著作、获奖、专利、项目等)	<p>27. Study on the Relationship Between Process Reconstruction and Energy Saving of Iron and Steel Manufacturing Process in China. 11th International Symposium on High-Temperature Metallurgical Processing,2020: 133-146.</p> <p>28. Prediction Model of End-Point Molten Steel Temperature in RH Refining Based on PCA-CBR. 11th International Symposium on High-Temperature Metallurgical Processing,2020:741-755.</p> <p>29. 钢铁生产流程的物质流仿真研究. 钢铁, 2021, 56(08):73-85.</p> <p>30. 基于改进遗传算法的热轧批量计划优化模型. 中国冶金, 2021, 31(05):47-53.</p> <p>31. Real-Time Dynamic Carbon Content Prediction Model for Second Blowing Stage in BOF Based on CBR and LSTM.Processes,2021,9(11):1987.</p> <p>32. Calculation Method of Energy Saving in Process Engineering: A Case Study of Iron and Steel Production Process. Energies,2021, 14(18):5756.</p> <p>33. An improved elitist GA-based solution for integrated batch planning problem in a steelmaking plant.ISIJ international,2021.</p>
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