



**박 현 교수**

**조선·해양공학과  
표면응용연구실**

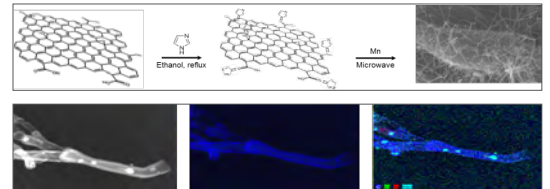
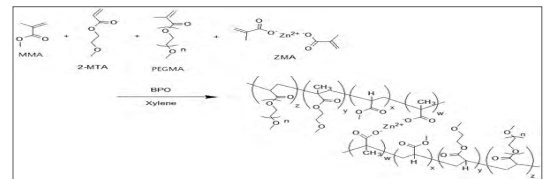
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**연구분야**  
Paint and coating systems for ships and plants  
Modification, physical and chemical analysis and performance evaluation of surfaces  
Fuel cell and corrosion/anti-corrosion employing electrochemical approach  
Recycling of waste materials

**수상**  
Albert Nelson Marquis Lifetime Achievement Award, Marquis Who's Who, 2018  
Excellent Paper Presentation Award, 한국공업화학회, 2017, 2019~2021  
제2회 국가녹색기술대상 국토해양부장관상, 2010 / 조선기자재산업 유공자 표창, 부산광역시, 2010

**대표연구**

- **FDR(Frictional Drag Reduction) AF(Anti-fouling) Paint**
  - Anti-Fouling: prohibit skin friction increase by fouling
  - Additional skin friction reduction
  - Synthesis of FDR SPC(Self-polishing copolymer): Patent KR 10-1524729, KR 10-1133078
- **Full-scale application of AF paint**
  - Collaboration with manufacturer and ship operator
  - Full patch test: Verification of full-scale ship fuel saving effect
- **Functional materials development**
  - Microwave synthesis and application of G-CNT hybrids
  - Waterborne polyurethane synthesis for coating application



**주요 연구실적**

- Hydrogen Evolution and Oxygen Reduction Reactions in Acidic Media Catalyzed by Pd4S Decorated N/S Doped Carbon Derived from Pd Coordination Polymer, Small, Vol. 17, 2007511, Mar 2021.
- Decomposition mechanisms of self-polishing copolymers for antifouling coating materials through first-principles approach, Progress in Organic Coatings, Vol. 138, 105406, Jan 2020.
- Taguchi method for optimization of reaction conditions in microwave glycolysis of waste PET, Journal of Material Cycles and Waste Management, Vol. 22, pp. 664-672, May 2020.
- Carbon nanofiber linked FeS2 mesoporous nano-alloys as high capacity anodes for lithium-ion batteries and supercapacitors, Journal of Alloys and Compounds, Vol. 732, pp. 799-805, Jan 2018.
- Microwave synthesis of nitrogen-doped carbon nanotubes anchored on graphene substrates, Carbon, Vol. 87, pp. 186-192, Jun 2015.

**주요 연구과제**

- 운항 선박의 탄소배출권 확보를 위한 방오도료용 원천기술 개발, 한국산업기술평가관리원, 5년, 4억 9천만원(마찰저항저감, 방오도료, 탄소배출권)
- MW급 선박용 수소연료전지 ESS 시스템 성능평가 설비 구축 및 시험기법 개발, 한국산업기술평가관리원, 4년 7개월, 66억원(MW급 병렬 연료전지 시스템, MBOP, EBOP, ESS 성능 평가기법)
- 지속가능한 기능성 코팅 원료로써 폐PET병의 재활용 기술 및 적용성 연구, 한국연구재단, 3년, 1억 5천만원(기능성코팅, PET 재활용)

**학회 활동**

- 한국공업화학회 평의원(2015.1~현재), 여성인재육성위원회 위원장(2021~현재)
- 대한조선학회 편집위원회 논문위원 (2020.1~현재)
- (사)한국여성과학기술단체총연합회 대의원, 학술대회 조직위원(2013.1~현재)

**산학 협력 활동**

- 저마찰 방오도료 상품화, BnGreenGuard FS (주) 비엔케이칼 출시(2015.04)
- 기술자문, KTR 복합소재센터, 에스알케이칼(주)
- ILIC 1사-1교수 기업주치의제(Family Doctor) 기술지도, 벽산페인트(주)(2007)

**기타 활동**

- 한국발명진흥회 특허기술 평가위원 (2013.12~2016.12)
- 한국해양과학기술진흥원 미래해양산업기술개발사업 평가위원(2014.4~2016.4), 해양산업성장기술개발사업 평가위원(2021.01)