



## TECHNOLOGY

# Integrated air-to-refrigerant heat exchanger and impeller

## OVERVIEW

### Background

Air conditioning and refrigeration systems constitute a huge amount of the overall energy usage. Increasing the efficiency and performance of the heat exchangers used in these units is always of interest to both companies that produce them and to their customers, especially if cost reduction is also achievable.

### Innovative Technology

Researchers at the University of Maryland developed a series of novel designs of heat exchangers for HVAC and other applications. The new designs utilize microchannel airfoil shaped tubes that prevent boundary layer detachment within the coil and which serve as both heat exchanger and air diffuser.

## APPLICATIONS

Air conditioning  
Refrigeration  
Power generation

## ADVANTAGES

Higher efficiency  
Low thermal resistance  
Low air flow resistance  
Less refrigerant volume  
Less material

## CONTACT INFO

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Pending

### EXTERNAL RESOURCES

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