

**Wenhao Wu**

# About myself

» Education and Certification

# Education

- ▶ Master of Science in Mechanical Engineering
    - Major: Thermofluid
    - Northeastern University
  - ▶ Master of Business Administration
    - Major: Project Management
    - City University
  - ▶ Global Supply Chain Management certificate
    - University of Washington
  - ▶ Green Belt Six Sigma
  - ▶ C Programming Language
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# About myself

»» Achievements

# Patent and Publication

- ▶ **Patents – as co-inventor**
- ▶ United States Patent 6,113,114/824399
  - Issued September 5, 2000
- ▶ United States Patent 5,971,407
  - Issued October 26, 1999
- ▶ United States Patent 5,967,542
  - Issued October 19, 1999
- ▶ **Research Publication**
  - *The Journal of Heat Transfer* – August 1992

# Patent Snapshot

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**United States Patent**  
**Williams , et al.**

**5,967,542**  
**October 19, 1999**

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Mounting disk and base for snowboard binding

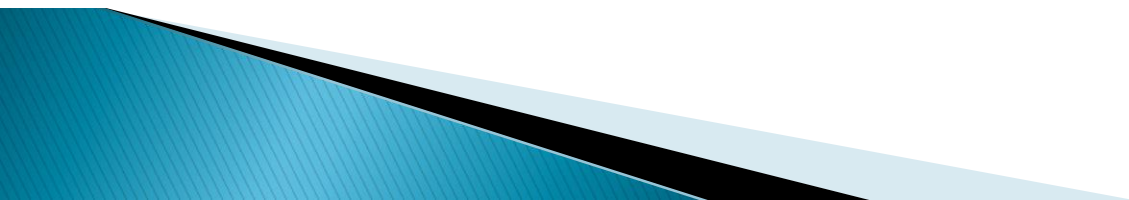
## **Abstract**

A snowboard binding mounting disk (24) includes a body (28) through which 3-hole and 4-hole patterns (8, 10) of mounting holes are formed. The centers of a pair of the 3-hole mounting holes are separated by a base distance (Z). The centers of a pair of the 4-hole mounting holes are separated by an end distance (Y). The end and base distances differ by a distance delta. The pair of end holes and the pair of base holes are positioned adjacent to one another so that the end and base holes overlap one another to create a pair of oblong, dual purpose holes (30). A removable and replaceable mounting element positioner (29) is mounted to the oblong holes at one of two stable positions. The position chosen is determined by whether the dual purpose holes are to be used for the 3-hole pattern or for the 4-hole pattern. The central opening (20) in the base is preferably made by stamping a grooved peripheral surface (22) sized to engage a complementary grooved surface (53) on the disk.

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**Inventors:** Williams; Mark L. (Seattle, WA), Moore; John D. (Seattle, WA), Wu; Wenhao (Redmond, WA), Zemke; Hubert R. (Carson City, NV), Pak; Lars L. (Seattle, WA)  
**Assignee:** Sims Sports, Inc. (Mill Creek, WA)  
**Appl. No.:** 08/977,817  
**Filed:** November 25, 1997

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# Publication Snapshot

Home	Journals	Conference Proceedings	eBooks	Topic Collections	Library Service Ce
Journal of Heat Transfer	Journal Home	Current Issue	All Issues	Accepted Manuscripts	

Journal of Heat Transfer | Volume 114 | Issue 3 | RESEARCH PAPERS

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## RESEARCH PAPERS

### Solidification With a Throughflow in a Porous Medium

T. Banerjee, C. Chang, W. Wu and U. Narusawa

[\[+\] Author Affiliations](#)

*J. Heat Transfer* 114(3), 675-680 (Aug 01, 1992) (6 pages)

doi:10.1115/1.2911333

History: Received November 01, 1990; Revised February 01, 1992; Online May 23, 2008

## ARTICLE

### Abstract

A steady throughflow in a porous medium is studied in the presence of a solidified layer due to cooling of the walls. Under the assumption of a moderately sloped melt-solid interface, analytical solutions are obtained for both a flow between parallel plates and a circular pipe. Differences and similarities are examined between the Darcian and the Brinkman porous media, as well as the effects of various parameters, such as the Peclet number, the ratio of diffusivities in the longitudinal and the lateral directions, and a parameter indicating the degree of wall cooling and flow heating, on thermofluid structure of a flow in porous media accompanied by solidification.



# About myself

»» Experiences



# My career path

## Product Development

- Aerospace
  - MEMS
- Computer
  - Router
- Medical
  - Lab equipment
- Automobile
  - Speedometer/Tachometer
  - Fire suppression
- Consumer
  - TV
- Sports goods
  - Snowboard binding

## Manufacturing/Operation

- Computing server
- Supply Chain
- Quality
- Logistic

## Operation

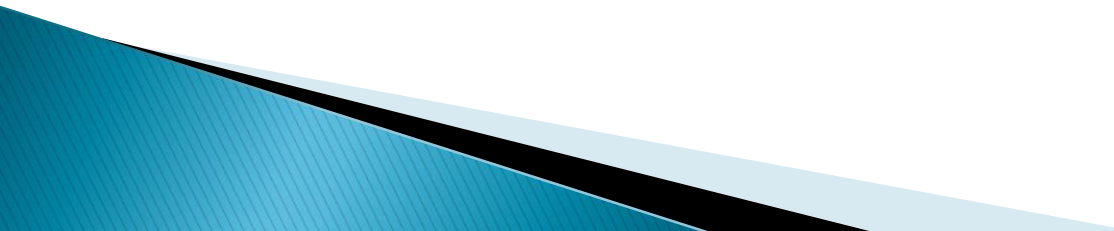
- NPI
- Cost Model
- LEAN

# Engineering Experiences

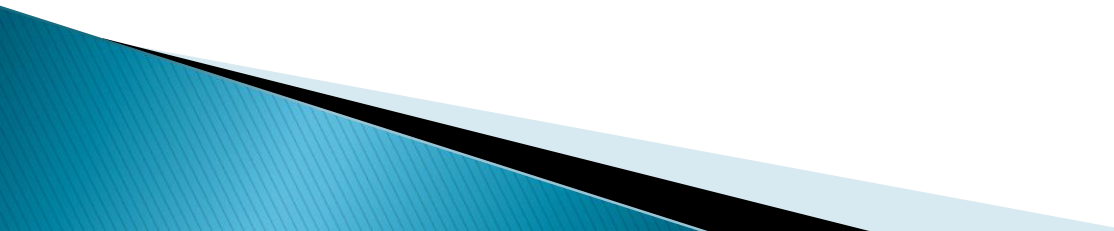
## ▶ New product development

- Aerospace
  - Honeywell MEMS product
- Automobile instrument
  - EQUUS
- Consumer
  - Microsoft, Panasonic
- Router
  - Cisco
- Medical lab equipment
  - Micronics
- Sports equipment
  - Sims Sports
- Industry Computer and Access Point device
  - Watchguard (802.11a,b,g, and n)

# Business Program Manager for Asia EMS

- ▶ Market research and Business opportunity analysis
  - ▶ Exploring and develop business opportunity
  - ▶ Responsible for \$4 millions sales project
  - ▶ Manage project from RFQ to production
  - ▶ Oversee order and shipment
- 

# NPI Program management

- ▶ Manage program from inception to production
  - ▶ Cost and contract negotiation
  - ▶ Vendor selection and qualification
  - ▶ Vendor early involvement
  - ▶ Resolve conflict
- 

# Product Development Cycle

Business  
Development

- Concept
- Ideation
- Roadmap development
- Product Research

Product  
Development

- Preliminary Design
- Product Engineering
- Design Validation
- Production Readiness

Production

- Production Ramp up
- Production Sustaining

EOL

- End production line

DFX

# DFX

- ▶ Design for Manufacturability
  - ▶ Design for Assembly
  - ▶ Design for Cost
  - ▶ Design for Usability
  - ▶ Design for Sustainability
  - ▶ Design for Upgradable/Scalable
  - ▶ Design for operation
    - SKU/Hardware model/Software version
  - ▶ Forward thinking
- 



# DFX for Software

- ▶ Bug fixing
- ▶ Firmware upgrade
- ▶ Software Upgrade
- ▶ Software version turns on by License key for easy production process

# DFX for Hardware

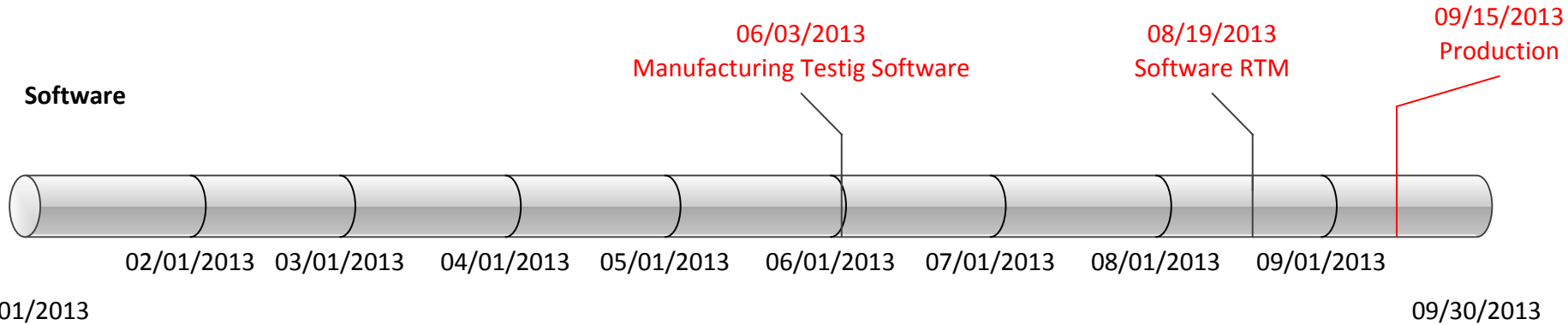
- ▶ Hardware platform selection base on technology
  - Processor
  - Encryption chip
  - Type of memory
    - NAND
    - NOR
    - EEPROM
  - Size of memory
  - Compliance
    - UL, CE, FCC, VCCI, KCC,NOM,CCC
    - FCC
    - RoHS, REACH, Carbon Footprint
  - MTBF
  - Warrantee

# Design for Production

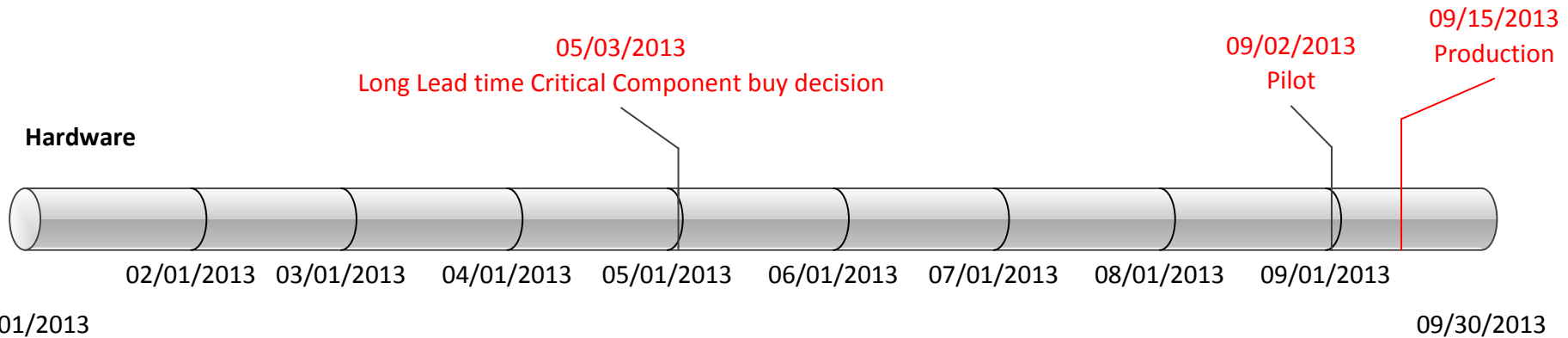
- ▶ Hardware configuration
- ▶ Software version
  - Different version for different customer
    - Consumer
    - Enterprise
- ▶ SKU management

# Sample Program Schedule

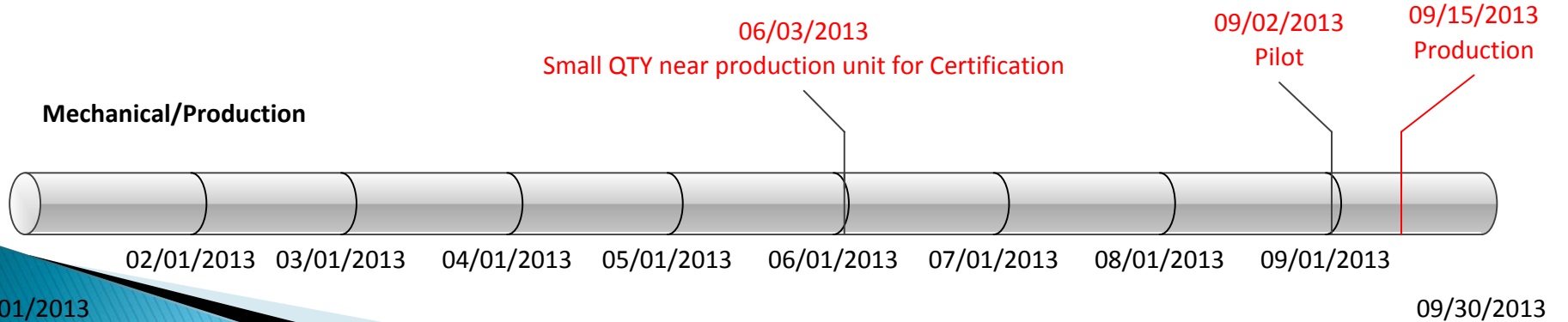
## Software



## Hardware



## Mechanical/Production



# About myself

» Strengths

# Strengths

## ▶ Bilingual

- I have proved my bilingual ability through my working experiences is very effective between Western and Asian engineering team member. I am always able to communicate precisely and remove any language gap between two cultures. For new product that needs to be move from development into production in the shorter time frame, my bilingual ability demonstrates most efficiency.

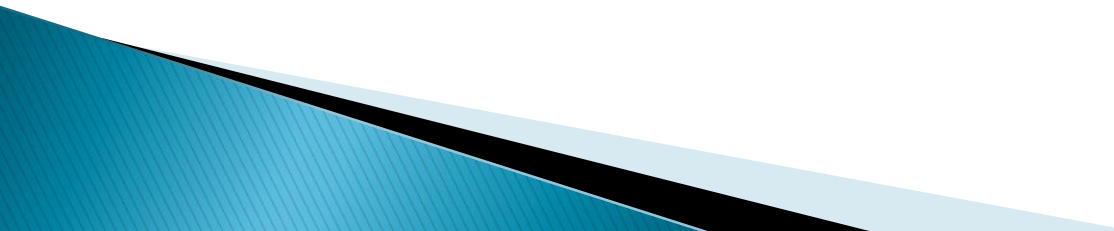
## ▶ OEM/ODM experiences

- As engineer with bilingual culture background, I am always involved in managing and communicating with Asia OEM/ODM from product development to production and create win-win situation.

## ▶ MBA

- With my MBA degree and years of business practice, I have proven I can bridge communication between business and engineering people to align engineering activity with company goal

# Strengths – Cont'

- ▶ Hand on operation/supply chain
    - Negotiate contract (terms and condition), cost, quality, manufacturing agreement, and warrantee.
    - Managing logistics process to ensure adequate inventory
  - ▶ Engineer with broad engineering knowledge
    - More than 20 years product design, development, and manufacture experiences with thorough understanding of DFX
    - Managing integration of hardware, software, manufacturing
  - ▶ Managerial experiences
    - Managing group consist of engineers, buyer/planner, and quality
- 



# About myself

»» Personal interest

# ISO 9000

- »» What are we looking for when investigating qualified vendors

# ISO 900 required documented procedure

1. Control of Documents
  2. Control of Records
  3. Internal Audits
  4. Control of Nonconforming Product / Service
  5. Corrective Action
  6. Preventive Action
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