

# DAN HUSSAIN

Founder & President  
**AMERICAN PIONEER VENTURES**  
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Chairman of the Board  
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## SUMMARY

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Inventor on 5 issued U.S. patents.

Founder or co-founder of five technology companies : Pioneer Energy (Lakewood, CO), KD Secure (Cambridge, MA), Chromatan (State College, PA), American Pioneer Ventures (New York, NY and Pittsburgh, PA), and American Patent Agency PC (Pittsburgh, PA), creating over 26 jobs nationwide

Admitted to the bar of the U.S. Patent & Trademark Office. Siemens Westinghouse National Team Winner.

## EDUCATION

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Expected 2012	<b>Carnegie Mellon University</b> Ph.D., Civil and Environmental Engineering	Pittsburgh, PA
2010	<b>Carnegie Mellon University</b> M.S., Civil and Environmental Engineering <i>Thesis: Carbon-neutral petroleum extraction techniques: A comparative lifecycle assessment (LCA) of alternative Enhanced Oil Recovery (EOR) methods</i>	Pittsburgh, PA
2004	<b>Massachusetts Institute of Technology</b> B.S., Electrical Science and Engineering, Minor in Biomedical Engineering	Cambridge, MA
2002-2003	<b>Harvard University</b> Special Student	Cambridge, MA
2001	<b>NASA Academy</b> Graduate of selective NASA Academy program – limited to approx. 20 students per year <ul style="list-style-type: none"><li>Active member of NASA Academy Alumni Association to inspire future space leaders.</li></ul>	Greenbelt, MD

## PROFESSIONAL EXPERIENCE

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2006-present	<b>Pioneer Energy, Inc. – Co-Founder and IP Consultant</b> <a href="http://www.pioneerenergyinc.com">http://www.pioneerenergyinc.com</a> <ul style="list-style-type: none"><li>Wrote and prosecuted over 20 fundamental patents in the area of clean energy, with 6 currently issued.</li><li>Secured first customer (early adopter) for company in Warren County, PA.</li><li>Assisted with securing financing for the company – \$10M since October 2008.</li><li>Currently leading the development of the Company’s intellectual property portfolio and government grant work.</li></ul>	Lakewood, CO
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- 2006-present **American Pioneer Ventures, Ltd. – Founder and President** New York, NY  
<http://www.american-pioneer-ventures.com>
- Technology incubator responsible for incubating over ten companies, two of which (KD Secure and Pioneer Energy) have been funded in the amount of at least \$2 million each:
    - KD Secure (security and safety software) – funded \$2m since May 2007
    - Pioneer Energy (clean energy technology) – funded \$10m since Oct. 2008
    - Chromatan (biotech)
    - 62 Pearl Street Associates LLC (arbitrage of distressed properties)
    - The LegUp™ Network (social network for entrepreneurs)
    - LuxAnalytica (biomedical)
    - GiveParty (Internet/social networking)
    - Global Innovation Center (intellectual property management)
    - Senduzy (mechanical devices)
    - American Pioneer Foundation (not-for-profit science education)
    - Mars Foundation (not-for-profit trust fund)
    - APV University (university for the entrepreneurs of the future)
- 2006-present **KD Secure, LLC – Founder, former President & IP Consultant** Cambridge, MA  
<http://www.kdsecure.com>
- Co-authored and prosecuted over 20 fundamental patents in the area of intelligent security and safety in the United States, Canada, and Europe; five patents have been granted.
  - Instrumental in raising \$650,000 in equity financing and \$650,000 in debt financing for the company.
  - Developed the application of advanced digital video and data correlation technologies for applications in safety, security, and business productivity in the following vertical markets: crane safety, equestrian safety, hospitals, and university laboratories.
  - Researched and co-authored KD Secure White Paper that included business plan, product development strategy, and marketing strategy.
  - Lead initial technology and product development efforts. Developed the basic demonstrations of KD Secure’s products.
- 2005-2007 **Frommer, Lawrence & Haug, LLP – Patent Agent and Scientific Advisor** New York, NY  
<http://www.flhlaw.com>
- Brought major new client to the firm (Siemens Corporation).
  - Patent prosecution related to video processing systems, communication systems, e-commerce, injection molding, semiconductor processing, and reissue applications.
  - Patent drafting related to computer systems, business methods, and IT systems.
  - Infringement, invalidity, and unenforceability opinions.
  - Litigation support, claim charts, and prior art searches.
  - Worked with major clients such as Sony, Siemens, and Rembrandt IP Management LLC.
  - Developed software and processes to improve work flow, track files, and communicate with clients.

- Summer 2003 **NASA Headquarters – Policy Analyst** Washington, D.C.  
 ▪ Analyzed NASA’s medical policy to assist the organization with making a major decision regarding financial coverage of assisted reproduction for the NASA Astronaut Corps.
- Summer 2002 **Institute of Theoretical Geophysics – Exchange Researcher** Cambridge, UK  
 ▪ Performed laboratory experimentation on binary alloy solidification using NH<sub>4</sub>Cl model system.
- Summer 2001 **NASA Goddard Space Flight Center – Research Associate** Greenbelt, MD  
 ▪ Created software and performed systems engineering with a team of four NASA engineers for transmitting satellite image data to handhelds.
- Summer 2000 **Siemens Corporate Research – Technical Employee** Princeton, NJ  
 ▪ Contributed to software engineering for 3D image sensor built in Germany.
- Summer 1999 **Northwestern Dearborn Observatory – Astrophysics Researcher** Evanston, IL  
 ▪ Analyzed scientific data returned from the X-ray satellite ROSAT under Unix platform.

## **LEADERSHIP AND PUBLIC SERVICE**

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- 2000-2002 **MIT Public Service Center** Cambridge, MA  
 ▪ Richland Senior High School: Developed curriculum and taught physics and astronomy to 9-12 grade science students in PA high school. Inspired students in scientific research and space exploration. Success led to MIT Public Service Center establishing an entire program – the Vector Fellowship – as a result.
- 2005-present **Science and Innovation Competition**  
 ▪ Established local science competition to increase interest in scientific and engineering professions in Johnstown, PA school district. MIT Public Service Center established a \$4,000 summer fellowship program to support the project. Gave out \$1,000 in scholarships.
- 1998-present **International Mars Society**  
 ▪ Exploring technologies for Mars exploration; former NASA Administrator is Board Member.  
 ▪ Founding member of non-for-profit organization; webmaster for Chicago Chapter (1998-1999); founder and chairperson for Pittsburgh Chapter (1999-2000); Founder and moderator, environmentalists for space taskforce (2000)

## **AWARDS**

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- 2000 **Siemens Westinghouse Science and Technology Competition – National Team Winner**  
 \$120,000 scholarship for research project at intersection of theoretical biology and computer science  
 Worked with Steven Malliaris (MIT BS ‘05, Yale PhD ‘12), and collaborated across state lines to complete project
- 2005 MA Ignite Clean Energy Business Presentation Competition – *Semifinalist*
- 2003 Eta Kappa Nu (HKN) Honor Society – *outstanding GPA in EECS department*
- 2002 Burchard Humanities Scholar – *scholarly achievement in political science*
- 1998 Stanford University Mathematics Scholarship – *elementary number theory*
- 2000 Valedictorian – Richland Senior High School Class of 2000, Johnstown, PA
- 1998 Caltech and Stanford Book Awards – *scholarly achievement*

## ISSUED U.S. PATENTS

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- U.S. Patent No. 7,793,850** by Albert Ho, Marc Siegel, Chris Tossing, Adam Ierymenko, and **Daniar Hussain**: “SYSTEM AND METHOD USED FOR CONFIGURATION OF AN INSPECTION COMPLIANCE TOOL WITH MACHINE READABLE TAGS AND THEIR ASSOCIATIONS TO INSPECTED COMPONENTS.” U.S. Serial No. 12/723,674, issued on September 14, 2010 and filed on March 14, 2010.
- U.S. Patent No. 7,737,837** by John J. Donovan and **Daniar Hussain**: “Hierarchical data storage manager, anonymous tip processing engine, and a vehicle information processing engine for security and safety applications.” U.S. Serial No. 12/106,951, issued on June 15, 2010, filed on April 21, 2008, and cleared national security review by the National Security Agency,
- U.S. Patent No. 7,595,815** by John J. Donovan and **Daniar Hussain**: “Apparatus, methods, and systems for intelligent security and safety.” U.S. Serial No. 11/746,043, issued on September 29, 2009 and filed on May 8, 2007.
- U.S. Patent No. 7,460,149** issued to John J. Donovan and **Daniar Hussain**: “Video data storage, search, and retrieval using meta-data and attribute data in a video surveillance system.” U.S. Serial No. 11/754,335, issued on December 2, 2008 and filed on May 28, 2007.
- U.S. Patent No. 7,382,244** issued to John J. Donovan and **Daniar Hussain**: “A video surveillance, storage, and alerting system having network management, hierarchical data storage, video tip processing, and vehicle plate analysis.” U.S. Serial No. 11/867,575, issued on June 3, 2008 and on filed October 4, 2007.

## PENDING PATENTS

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- U.S. Serial No. 12/363,683** by Bradley Bader and **Daniar Hussain**: “Methods and systems for collaborative purchase of gifts.” Filed on January 30, 2009.
- U.S. Serial No. 12/203,613** by John J. Donovan and **Daniar Hussain**: “Methods and systems for alerting by weighing data based on the source, time received, and frequency received.” Filed on September 3, 2008.
- U.S. Serial No. 12/207,111** by John J. Donovan and **Daniar Hussain**: “An audio analysis, storage, and alerting system.” Filed on August 25, 2008
- U.S. Serial No. 12/279,720** by John J. Donovan and **Daniar Hussain**: “A hierarchical storage manager (HSM) for intelligent storage of large volumes of data.” Filed on August 17, 2008.
- European Serial No. EP08/165,058** by John J. Donovan and **Daniar Hussain**: “An alerting system and method for safety, security, and business productivity.” Filed in European Patent Office on September 25, 2008.
- Canadian Serial No. 2,638,621** by John J. Donovan and **Daniar Hussain**: “Video surveillance, storage, and alerting system having network management, heirarchical data storage, video tip processing, and vehicle plate analysis.” Filed in Canadian Patent Office on September 15, 2008.

## CONFERENCE PRESENTATIONS

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- Hussain, Daniar**, Andrew Werner, and Neil Desai. *The personal internetworked notary and guardian (PING): The policy implications of a patient-controlled electronic medical record*. Published in MIT OpenCourseWare, Course 6.805J exemplary class paper. Available at <<http://www-swiss.ai.mit.edu/6.805/student-papers/spring02-papers/student-papers.html>> May 16, 2002.
- Hussain, Daniar**, and Steven Malliaris. *Evolutionary techniques applied to hashing*. Genetic and Evolutionary Computation Conference Proceedings. Las Vegas, NV: July 2000.
- Hussain, Daniar**. *Prototype for next generation mobile access to satellite data, on Earth and Mars*. Fourth Mars Society Convention, Stanford University, CA: August 26, 2001.
- Hussain, Daniar**. *The NASA Academy*. Fourth Mars Society Convention, Stanford University, CA: August 24, 2001.
- Hussain, Daniar**. *Cross products in higher dimensional vector spaces*. Eighteenth Undergraduate Mathematics Conference, Rose-Hulman Institute of Technology, IN: March 17, 2000.
- Hussain, Daniar**. *Lecture on Mars exploration*. Yuri’s Space Night Conference, MIT Student Center, MA: April 12, 2000.
- Hussain, Daniar**. *An environmentalist approach to space exploration* [moderator of panel discussion]. Third Mars Society Convention, Toronto, Canada: August 2000.

## **PRESS COVERAGE**

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Silverstein, Ken. *The radioactive boy scout: The true story of a boy and his backyard nuclear reactor*. Random House, March 2004, p 136.

Helmuth, Laura. *Science education: Science fair pump up the rewards of talent*. Science 1999, vol 286: p 2056.

Sojak, Frank. *Student, pal sharing \$90,000 scholarship*. Tribune Democrat. Dec. 7, 1999, p A3.

Heinzmann, David. *A scholarship won, thanks to computer*. Chicago Tribune. Dec. 7, 1999, pp 2-3.

*Research by undergraduate mathematics students featured at Rose-Hulman conference*. The Rose Thorn, vol. 36, no. 19. Terre Haute, IN: March 16, 2001.

Sojak, Frank. *Keyboard King: local senior outthinks competition*. The Tribune Democrat. Nov. 1, 1999, p A3.

Spice, Byron. *Siemens resurrects Westinghouse name in new science competition*. Pittsburgh Post Gazette. Oct. 31, 1999, vol. 73, no. 91, p A8.

Thariath, Abraham. *Computer project helps win Westinghouse prize*. India Abroad. Dec. 17, 1999, vol. 30, no. 12.

## **CLASSES AND CORPORATE SEMINARS TAUGHT**

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Daniar Hussain: "Basics of Patent Law for Scientists and Engineers." APV Corporate Seminar, 2009-2010.

Daniar Hussain: "Basics of Patent Law for Scientists and Engineers." CMU Spring Mini Course, Spring 2010.

Daniar Hussain: "Basics of Patent Law for Scientists and Engineers." KD Secure Corporate Seminar, 2008-2009.

Thomas Presson and Daniar Hussain: "Basics of Patent Law for Scientists and Engineers." MIT IAP Course, January 2007.

## **PROFESSIONAL MEMBERSHIPS**

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American Intellectual Property Law Association (AIPLA)  
Institute of Electrical and Electronics Engineers (IEEE)  
Mathematical Association of America (MAA)  
American Mathematical Society (AMS)  
American Association for the Advancement of Science (AAAS)

## **BAR ADMISSIONS**

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Registered to practice before the U.S. Patent and Trademark Office (Registration No. 59,026)

## **LANGUAGES**

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Conversational Russian

## **INTERESTS**

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Sailing, Swimming, Sculling, Ice Skating, Biking, Hiking, Philanthropy, Travel, Politics