

Dr. Faris' Inventive Contributions

Dr. Faris has 250 patents issued worldwide, and nearly 300 patents pending. Presented below is a representative listing of Dr. Faris' patents:

<u>Biotech and DNA Sequencing Patents And Patent Applications</u>		
6,962,816		Highly Controllable Electroporation And Application Thereof
7,075,104	Based on Priority Dates of April 7, 2005 and July 15, 2005 Based on Priority Date of February 10, 2003	Microchannel Plates And Biochip Arrays, And Methods Of Making Same Probes, Methods Of Making Probes And Applications Of Probes
WO2006108188		Micro-Nozzle, Nano-Nozzle, Manufacturing Methods Therefor, Applications Therefor
WO2004071948		

<u>Stereoscopic Patents</u>	
6,904,122	3D Stereoscopic X-Ray System And Method
6,449,005	Method And Apparatus For Producing And Displaying Spectrally-Multiplexed Images Of Three-Dimensional Imagery For Use In Stereoscopic Viewing Thereof
6,195,205	Multi-Mode Stereoscopic Imaging System
6,111,598	System And Method For Producing And Displaying Spectrally-Multiplexed Images Of Three Dimensional Imagery For Use In Flicker-Free Stereoscopic Viewing Thereof
6,034,717	Projection Display System For Viewing Displayed Imagery Over A Wide Field Of View
6,011,581	Intelligent Method And System For Producing And Displaying Stereoscopically-Multiplexed Images Of Three-Dimensional Objects For Use In Realistic Stereoscopic Viewing Thereof In Interactive Virtual Reality Display Environments
6,002,518	Phase-Retardation Based System For Stereoscopic Viewing Micropolarized Spatially-Multiplexed Images Substantially Free Of Visual-Channel Cross-Talk And Asymmetric Image Distortion
5,821,989	Stereoscopic 3-D Viewing System And Glasses Having Electrooptical Shutters Controlled By Control Signals Produced Using Horizontal Pulse Detection Within The Vertical Synchronization Pulse Period Of Computer Generated Video Signals
5,742,333	Electro-Optical Device For Selectively Transmitting Polarized Spectral Components

Dr. Faris' Inventive Contributions – Representative Listing of Patents

<u>Stereoscopic Patents</u>	
5,537,144	Electro-Optical Display System For Visually Displaying Polarized Spatially Multiplexed Images Of 3-D Objects For Use In Stereoscopically Viewing The Same With High Image Quality And Resolution
5,457,554	3-D Printing Technology Based On Selective Reflecting Polarizing Media
5,327,285	Methods For Manufacturing Micropolarizers
5,146,415	Self-Aligned Stereo Printer
5,121,343	3-D Stereo Computer Output Printer

<u>Optical Data Storage Patents</u>	
6,936,195	Multi-Layer Optical Recording Media And System For Recording And Reproducing Information Data
6,498,775	Multi-Layer Optical Recording Media And System For Recording And Reproducing Information Data
6,094,410	Multi-Layer Optical Recording Media And Method For Recording And Reproducing Information Using The Same
6,005,838	Multi-Layers Optical Recording Media And System For Recording And Reproducing Information Data
5,838,653	Multiple Layer Optical Recording Media And Method And System For Recording And Reproducing Information Using The Same

<u>Water Desalination Patents</u>	
6,805,776	Movable Electrode Flow-Through Capacitor
6,798,639	Fluid Desalination Flow Through Capacitor Systems Fluid Desalination Flow Through Capacitor Systems

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<u>Display Patents</u>	
6,992,749	Flat Panel Display And A Method Of Fabrication
6,924,850	Flat Panel Display Structures And Method Of Manufacture.
6,876,429	Flat Panel Display And A Method Of Fabrication
6,831,720	High-Brightness Color Liquid Crystal Display Panel Employing Light Recycling Therein.
6,801,270	Backlight For A Liquid Crystal Display Having High Light-Recycling Efficiency
6,680,758	Flat Panel Display And A Method Of Fabrication
6,573,961	High-Brightness Color Liquid Crystal Display Panel Employing Light Recycling Therein.
6,563,553	Flat Panel Display And Method Of Manufacture.
6,333,773	Image Display Panel Employing A Broad-Band Polarizing/Reflective Backlighting Structure And A Pixelated Array Of Reflective-Type Filtering Elements
6,188,460	Image Display Panel Having A Backlighting Structure And A Single Layer Pixelated Array Of Reflective-Type Spectral Filtering Elements Where Between Light Is Recycled For Producing Color Images With Enhanced Brightness

<u>Fuel Cell Energy Patents</u>	
6,800,393	Metal Air Cell Incorporating Ionic Isolation Systems
6,653,003	Fuel Cell Support And Electrical Interconnector
6,649,294	Metal-Air Fuel-Cell Battery System Having Mechanism For Extending The Path-Length Of Metal-Fuel Tape During Discharging And Recharging Modes Of Operation
6,641,943	Metal-Air Fuel Cell Battery System Having Means For Recording And Reading Operating Parameters During Discharging And Recharging Modes Of Operation
6,569,555	Refuelable And Rechargeable Metal-Air Fuel Cell Battery Power Supply Unit For Integration Into An Appliance
6,562,504	Metal-Air Fuel Cell Battery {FCB} Electrical Power Producing Module With Multi-Element Cathode Structure And Insertable Metal-Fuel Card{S}
6,562,494	Electro-Chemical Power Generation Systems Employing Arrays Of Electronically-Controllable Discharging And/Or Recharging Cells Within A Unitary Support Structure

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<u>Fuel Cell Energy Patents</u>	
6,558,829	Appliance With Refuelable And Rechargeable Metal-Air Fuel Cell Battery Power Supply Unit Integrated Therein
6,558,825	Fuel Containment And Recycling System
6,485,850	Metal-Air Fuel Cell Battery System With Multiple Cells And Integrated Apparatus For Producing Power Signals With Stepped-Up Voltage Levels By Selectively Discharging The Multiple Cells
6,472,093	Metal-Air Fuel Cell Battery Systems Having A Metal-Fuel Card Storage Cartridge, Insertable Within A Fuel Cartridge Insertion Port, Containing A Supply Of Substantially Planar Discrete Metal-Fuel Cards, And Fuel Card Transport
6,410,174	Metal-Air Fuel Cell Battery System Having Means For Bi-Directionally Transporting Metal-Fuel Tape And Managing Metal-Fuel Available Therealong
6,383,673	Metal-Fuel Card With A Plurality Of Metal-Fuel Elements And Corresponding Contact Apertures, Ad Electro-Chemical Electric Power Generation Devices Employing Same
6,382,264	Recyclable Fuel Distribution, Storage, Delivery And Supply System
6,376,115	Metal Fuel Cell With Movable Cathode
6,365,292	Cathode Belt Structure For Use In A Metal-Air Fuel Cell Battery System And Method Of Fabricating The Same.
6,348,277	A Method Of And System For Producing And Supplying Electrical Power To An Electrical Power Consuming Device Using A Metal-Air Fuel Cell Battery (FCB) Module And A Supply Of Metal-Fuel Cards
6,335,111	Metal-Air Fuel Cell Battery System Employing A Plurality Of Moving Cathode Structures For Improved Volumetric Power Density
6,312,844	Metal-Air Fuel Cell Battery Having Means For Discharging And Recharging Metal-Fuel Cards Supplied From A Cassette-Type Storage Device
6,306,534	Metal-Air Fuel Cell Battery System Employing Means For Discharging And Recharging Metal-Fuel Cards
6,299,997	Ionically-Conductive Belt Structure For Use In A Metal-Air Fuel Cell Battery System And Method Of Fabricating The Same
6,296,960	System And Method For Producing Electrical Power Using Metal Air Fuel Cell Battery Technology

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<u>Fuel Cell Energy Patents</u>	
6,287,715	Metal-Air Fuel Cell Battery System Having Means For Controlling Discharging And Recharging Parameters For Improved Operating Efficiency
6,239,508	Electrical Power Generation System Having Means For Managing The Discharging And Recharging Of Metal Fuel Contained Within A Network Of Metal-Air Fuel Cell Battery Subsystems
6,218,034	Cathode Cylinder For Use In Metal-Air Fuel Cell Battery Systems And Method Of Fabricating The Same.
5,250,370	Variable Area Dynamic Battery

<u>Inks And Related Patents</u>	
6,913,793	Method Of Producing Iridescent Coatings
6,753,044	Coloring Media Having Improved Brightness And Color Characteristics
6,643,001	Patterned Platelets
6,535,268	Multilayer Non Metallic Reflecting Flakes For Cosmetics And Sunscreens
6,515,717	Computer-Based System For Producing Multi-Color Multilayer Images On Substrates Using Dry Multi-Colored Cholesteric Liquid Crystal {CLC} Pigment Materials Applied To Binder Material Patterns
6,404,464	Method And System For Producing Color Images With Improved Brightness And Color Characteristics Of Radiation Absorptive Surfaces
6,394,595	Apparatus For Producing Multi-Color Images On Substrates Using Dry Multi-Colored Cholesteric Liquid Crystal [CLC] Pigment Materials
6,387,457	Method Of Dry Printing And Painting
6,377,325	Reflective Film Material Having Symmetrical Reflection Characteristics And Method And Apparatus For Making The Same
6,338,807	Cholesteric Liquid Crystal (Clc)-Based Coloring Media For Producing Color Effects Having Improved Brightness And Color Characteristics
5,599,412	Method And Apparatus For Producing Aligned Cholesteric Liquid Crystal Inks
5,364,557	Aligned Cholesteric Liquid Crystal Inks

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<u>Internet Patents</u>	
6,903,681	Global Synchronization Unit (GSU) For Time And Space (TS) Stamping Of Input Data Elements
6,659,861	Internet-Based System For Enabling A Time-Constrained Competition Among A Plurality Of Participants Over The Internet
6,677,858	Internet-Based Method Of And System For Monitoring Space-Time Coordinate Information And Biophysiological State Information Collected From An Animate Object Along A Course Through The Space-Time Continuum

<u>Polarizer Patents</u>	
7,034,909	Super Broad-Band Polarizing Reflective Material
6,965,420	Spectrum-Controllable Reflective Polarizers Having Electrically-Switchable Modes Of Operation
6,888,612	Liquid Crystal Film Structures With Phase-Retardation Surface Regions Formed Therein
6,873,381	System For Controlling Unpolarized Electromagnetic Radiation
6,778,236	Reflective Strain Gauge And Polarization-Sensitive Devices
6,738,114	Liquid Crystal Film Structures With Phase-Retardation Surface Regions Formed Therein
6,710,541	Polarized Light Sources And Methods For Making The Same
6,697,133	Controllable Bandwidth Polarizer
6,661,486	Multilayer Reflective Films Having Non-Linear Spacing Of Layers
6,633,354	Spectrum-Controllable Reflective Polarizers Having Electrically-Switchable Modes Of Operation
6,532,049	Circularly Polarizing Reflective Material Having Super Broad-Band Reflection And Transmission Characteristics And Method Of Fabricating And Using Same In Diverse Applications
6,473,143	Broadband Switchable Polarizer
6,369,868	Liquid Crystal Polarizer With Electrically Controllable Bandwidth
6,252,710	Polarizer Devices And Methods For Making The Same
6,181,395	Circularly Polarizing Reflective Material Having Super Broad-Band Reflection And Transmission Characteristics And Method Of Fabricating And Using Same In Diverse Applications

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<u>Polarizer Patents</u>	
6,133,980	Liquid Crystal Film Structures With Phase-Retardation Surface Regions Formed Therein And Methods Of Fabricating The Same
6,072,629	Polarizer Devices And Methods For Making The Same
6,072,549	Intelligent Glazing Structures With Additional Control Layers
6,034,753	Circularly Polarizing Reflective Material Having Super Broad-Band Reflection And Transmission Characteristics And Method Of Fabricating And Using Same In Diverse Applications
5,691,789	Single-Layer Reflective Super-Broadband Circular Polarizer And Method Of Fabrication Therefor
5,096,520	Method For Producing High Efficiency Polarizing Filters

<u>Semiconductor Related Patents And Applications</u>	
7,045,878	Thin Films And Production Methods Thereof
7,033,910	Method Of Fabricating Muti Layer MEMs And Microfluidic Devices
6,956,268	MEMs And Method Of Manufacturing MEMs
6,875,671	Method Of Fabricating Vertical Integrated Circuits
6,355,976	Three-Dimensional Packaging Technology For Multi-Layered Integrated Circuits
5,786,629	3-D Packaging Using Massive Fillo-Leaf Technology
5,353,247	Optical Mass Storage System And Memory Cell Incorporated Therein
WO2007019494 20060202294 20030062734	Si Ribbon, SiO2 Ribbon And Ultra Pure Ribbons Of Other Substances Nanolithography And Microlithography Devices And Method Of Manufacturing Such Devices Device And Method For Handling Fragile Objects, And Manufacturing Method Thereof

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<u>Switchable Window Patents</u>	
6,897,936	Electro-Optical Glazing Structures Having Scattering and Transparent Modes of Operation
6,710,823	Non-Absorptive Electro-Optical Glazing Structures Employing Composite Infrared Reflective Polarizing Filter
6,583,827	Electro-Optical Glazing Structures Having Bi-Directional Control of Electromagnetic Radiation During Total-Reflection, Semi-Transparent and Totally-Transparent Modes of Operation
6,559,903	Electro-Optical Glazing Structures Having Reflection and Transparent Modes of Operation
5,940,150	Electro-Optical Glazing Structures Having Total-Reflection and Transparent Modes of Operation for Use in Dynamical Control of Electromagnetic Radiation.

<u>Switching and Data Transfer Patents</u>	
6,992,748	Scalable and Mass-Manufacturable OXC using Liquid Crystal
6,977,695	Variable Optical Attenuator Based on Electrically Switchable Cholesteric Liquid Crystal Reflective Polarizers
6,958,843	Wide-Range And High Resolution Variable Optical Delay
6,943,929	Optical Transistor
6,839,472	Solid State Optical Interconnect System
6,259,831	All-Optical Interconnect Utilizing Polarization Gates

<u>Superconductivity Patents</u>	
6,617,987	Electron Beam Excited Superconducting Analog-To-Digital Converter
4,894,612	Soft Probe For Providing High Speed On-Wafer Connections To A Circuit
4,866,302	Time Domain Reflectometer
4,837,604	Femtosecond Three-Terminal Switch And Vertical Tunnel Junction
4,814,598t	Optical Wavelength Analyzer And Image Processing System Utilizing Josephson Junctions
4,809,133	Low Temperature Monolithic Chip
4,789,794	Time Domain Reflectometer
4,777,362	Particle Trigger And Delay Generation System
4,739,633	Room Temperature To Cryogenic Electrical Interface

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<u>Superconductivity Patents</u>	
4,498,046	Room temperature cryogenic test interface
4,631,423	Ultra high resolution Josephson sampling technique
RE31,485	Waveform transition sensitive Josephson junction circuit having sense bus and logic applications
4,401,900	Ultra high resolution Josephson sampling technique
4,360,898	Programmable logic array system incorporating Josephson devices
4,334,158	Superconducting switch and amplifier device
4,274,015	Self-resetting Josephson digital current amplifier
4,151,605	Superconducting memory array configurations which avoid spurious half-select condition in unselected cells of the array
4,149,097	Waveform transition sensitive Josephson junction circuit having sense bus and logic applications
4,144,465	Self-resetting Josephson device circuit