

## AEROSPACE

### OPPORTUNITIES

It is not yet well known, but the aerospace sector is a rich environment for start-ups, and six key elements play a role:

#### SBIR and STTR Funding

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs comprise the largest source of high-risk, early stage, aerospace R&D funding in the U.S. The Federal Government currently awards \$2.2 billion in SBIR/STTR funding to small businesses each year – a large proportion of which is awarded by the Department of Defense. Total SBIR/STTR DOD funding to Colorado ventures was \$10.24 million for 2006.

#### Manufacturing Capability

Many products developed by small businesses in the aerospace sector do not require extensive manufacturing facilities – at least during the start-up and early development phase. Often, all that is needed are lab benches and testing equipment.

#### Supportive Environment

The aerospace start-up's client is frequently one of the prime aerospace/defense companies, NASA or the Department of Defense. Unlike many other sectors, there is often a paternal relationship on the part of the client towards the aerospace start-up that often manifests in favorable financial terms and ongoing coaching during product development. Many aerospace start-ups are begun by engineers who have a talent for business development leading to product development sponsored by a large aerospace company. Rarely is a successful aerospace start-up initiated by a non-engineer business professional, but that too appears to be changing as aerospace technologies are being applied in dual-use "terrestrial" products markets.

### INDUSTRY-SPECIFIC LICENSES, CERTIFICATES

#### Federal Aviation Administration

- Licenses and Certificates: [http://www.faa.gov/licenses\\_certificates/](http://www.faa.gov/licenses_certificates/)



- Aircraft Certification: [http://www.faa.gov/licenses\\_certificates/aircraft\\_certification/](http://www.faa.gov/licenses_certificates/aircraft_certification/)
- Airline Certification: [http://www.faa.gov/licenses\\_certificates/airline\\_certification/](http://www.faa.gov/licenses_certificates/airline_certification/)
- Airmen Certification: [http://www.faa.gov/licenses\\_certificates/airmen\\_certification/](http://www.faa.gov/licenses_certificates/airmen_certification/)
- Airport Certification: [http://www.faa.gov/licenses\\_certificates/airmen\\_certification/](http://www.faa.gov/licenses_certificates/airmen_certification/)
- Commercial Space Transportation: [http://www.faa.gov/licenses\\_certificates/commercial\\_space\\_transportation/](http://www.faa.gov/licenses_certificates/commercial_space_transportation/)
- Medical Certification: [http://www.faa.gov/licenses\\_certificates/medical\\_certification/](http://www.faa.gov/licenses_certificates/medical_certification/)

#### PROFESSIONAL ASSOCIATIONS

The following is a selection from among the many professional associations serving all aspects of the aerospace industry. (Source: [http://trade.gov/td/aerospace/aerospace\\_associations.html](http://trade.gov/td/aerospace/aerospace_associations.html))

- **Aeronautical Repair Station Association** provides regulatory clarification, interpretation and assistance to companies and organizations worldwide. In addition to both large and small repair station operators, membership is comprised of airline and aviation parts manufacturers, airlines, engineering firms and distributors. The Association promotes laws and regulations that establish reasonable aviation safety standards. It

encourages the development of regulatory guidance and interpretations that are clear, concise, consistent and applied uniformly. (<http://www.arsa.org>)

- **Aerospace Industries Association** is the trade association representing the nation's leading manufacturers of commercial, military, and business aircraft, helicopters, aircraft engines, missiles, spacecraft, and related components and equipment. (<http://www.aia-aerospace.org/>)
- **American Institute of Aeronautics and Astronautics** is a professional society for aerospace engineers and scientists. (<http://www.aiaa.org>)
- **Aviation Distributor's and Manufacturers Association** represents and provides services to further the aerospace industry marketplace. (<http://www.adma.org>)
- **Experimental Aircraft Association** represents experimental and sport pilots on local, state and federal levels. (<http://www.eaa.org>)
- **Foundation for Space Exploration** is a non-profit, philanthropic organization supporting aerospace research, education and outreach activities. (<http://www.spacex.org>)
- **General Aviation Manufacturers Association** is a national trade association representing manufacturers of fixed-wing aircraft, engines, avionics, and components. GAMA member companies also operate aircraft

fleets, airport fixed-based operations, pilot schools, and training facilities across the nation. General Aviation aircraft range from two-seat training aircraft to intercontinental business jets and regional airliners. (<http://www.gama.aero>)

- **Light Aircraft manufactures Association** is a nonprofit national trade association representing manufacturers of light aircraft, engines, avionics, parts/subassemblies, and suppliers and distributors to the light aircraft industry and community. (<http://www.lama.bz/>)
- **National Aeronautics Association** is an organization that represents all areas of flight. (<http://www.naa.aero/>)
- **National Agricultural Aviation Association** represents the aerial application industry. (<http://www.agaviation.org>)
- **Professional Aviation Maintenance Association** aims to promote a high degree of professionalism among aviation maintenance personnel; to foster and improve methods, skills, learning, and achievement in the field of Aviation Maintenance. (<http://www.pama.org>)
- **Satellite Industry Association** works to advance satellite interests both domestically and internationally. The association is dedicated to promoting the use of satellite technology in global communications. (<http://www.sia.org>)
- **Space Enterprise Council** is a forum for all sectors of the industry including commercial, civil, and military space-related companies. The council brings the collective power of its affiliation with the U.S. Chamber of Commerce and its diverse members into a single, unified voice that is used in advocating member interests to policymakers. (<http://www.uschamber.com/space/default>)
- **Space Foundation** is the leading non-profit organization advancing the exploration, development and use of space and space education for the benefit of all humankind. To vigorously advance and support civil, commercial and national security space endeavors and educational excellence. (<http://www.spacefoundation.org>)
- **Space Transportation Association** represents the interests of organizations and

people who are engaged in developing, building, operating, and using space transportation vehicles, systems, and services to provide reliable, economical, safe, and routine access to space for private users and government, civil, and military users. (<http://www.spacetransportation.org>)

### Investment & Funding

The following is a selection from among the many resources available to assist new enterprises in obtaining start-up and growth funding and advice:

- **Colorado Small Business Development Center** (<https://www.coloradosbdc.org>)
- **Keiretsu Forum/Denver Chapter** (<http://www.k4forum.com/chapters/denver/index.html>)
- **Mountain Angel Capital** (web site in development; Google for latest information)
- **Rocky Mountain Venture Capital Association** (<http://www.rockymountainvca.com/>)
- **Rockies Venture Club** (<http://www.rockies-ventureclub.org/resources.php>)
- **Space Commerce Roundtable/Space Investment Summits** (<http://www.spacecommercroundtable.com>)
- **Space Angels Network** (<http://www.spaceangelsnetwork.com/>)
- **TechStars** (<http://www.techstars.org>)

### University Technology Transfer

- **Colorado School of Mines Office of Technology Transfer** ([http://www.mines.edu/research/ord/technology\\_transfer.html](http://www.mines.edu/research/ord/technology_transfer.html))
- **Eighth Continent Aerospace Business Incubator** (<http://www.8cincubator.com/>)
- **University of Colorado Technology Transfer Office** (<http://www.cu.edu/techtransfer/>)
- **Colorado State University Research Foundation Technology Transfer Office** (<http://www.csurf.org/home.html>)
- **Office of Technology Transfer at the University of Denver** (<http://www.du.edu/techtransfer/>)

## BIOSCIENCE

### OPPORTUNITIES

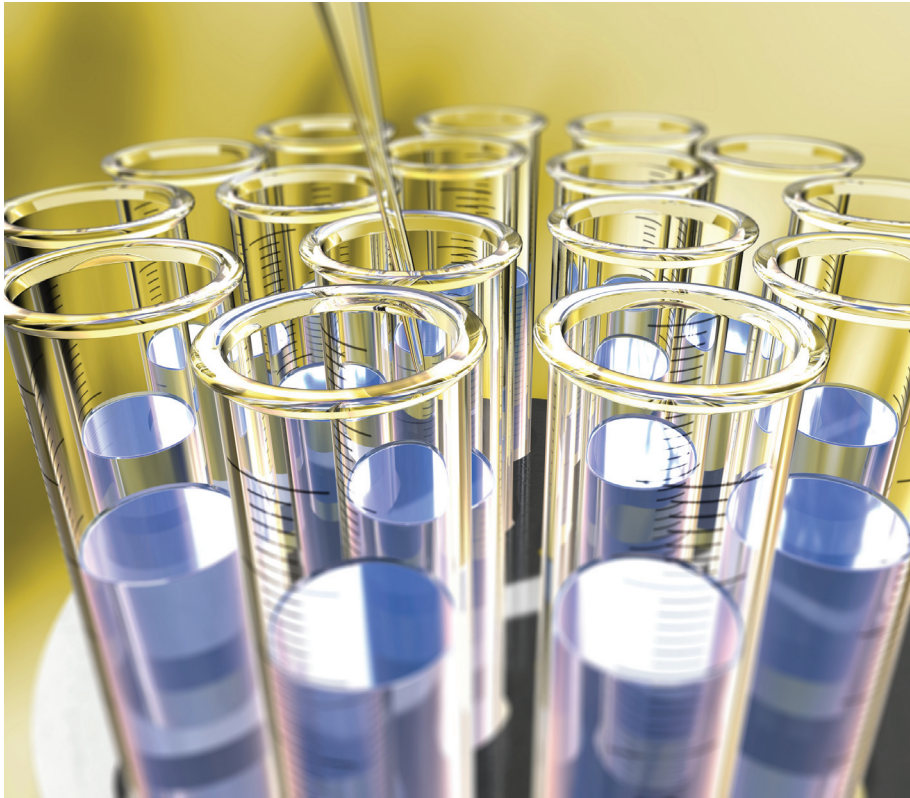
The bioscience industry in Colorado en-

compasses four sectors: biotechnology, medical devices, pharmaceuticals and agricultural technology (which includes the bio-based fuels industry subsector). As a high growth industry with high-paying jobs, the bioscience industry consists of more than 400 companies provide approximately 16,000 jobs to the Colorado economy and indirectly supports more than 20,000 additional jobs.

Bioscience provides opportunities for the creation of new companies in all its sectors, including contract work for individuals and supplier/service relationships both to larger established companies and to smaller, rapidly growing companies.

### PROFESSIONAL ASSOCIATIONS

- **Colorado Bioscience Association (CBSA)** is the best source for face-to-face networking and information resources about the bioscience industry and its opportunities in Colorado. CBSA puts on more than 60 topical programs a year, including monthly BioBreakfasts, BizBio Lunches, the annual BioWest Conference and a number of other substantial topical presentation meetings that are the sine qua non for bioscience industry professionals, entrepreneurs, and students in Colorado. CBSA's resources include industry subgroup meetings in Colorado Springs (BIOSOCO) and Larimer County. CBSA is also the best direct resource for information on programs sponsored by its members, such as Holland and Hart's Bio Bootcamp meeting for bioscience entrepreneurs and other programs. (<http://www.cobioscience.com>)
- **Biotechnology Industry Association** provides a 140-page Guide to Biotechnology about the broader biotechnology industry, its business culture and terminology. (<http://www.bio.org>)
- **International Society for Pharmaceutical Engineering (ISPE) – Rocky Mountain Chapter** ([www.ispe.org/rockymountain](http://www.ispe.org/rockymountain))
- **Rocky Mountain Regulatory Affairs Society** (<http://www.rmras.org/>)
- **Rocky Mountain Product Development and Management Association** (<http://www.rmpdma.com/>)



#### ENTREPRENEURSHIP SUPPORT

- **The Bard Center for Entrepreneurship Bioscience Program** ([http://thunder1.cudenver.edu/bard/bioscience\\_program.htm](http://thunder1.cudenver.edu/bard/bioscience_program.htm))
- **BioBootcamp** (<http://www.biobootcamp.com/>)
- **Bioentrepreneurs Club** (<http://www.hollandhart.com/bioclub.cfm>)
- **BioBeers** (<http://www.biobeers.com>)

#### CAREER INFORMATION

- **The BioTech Work Portal at the San Diego Workforce Partnership** (<http://www.biotechwork.org>)
- **The BayBio Institute Job Seekers Guide** ([http://www.baybio.org/institute/wt/page/job\\_listings](http://www.baybio.org/institute/wt/page/job_listings))
- **The North Carolina Biotechnology Center Guide to Biotechnology** ([http://www.ncbiotech.org/resource\\_center/guide\\_to\\_biotechnology/index.html](http://www.ncbiotech.org/resource_center/guide_to_biotechnology/index.html))

#### ADDITIONAL RESOURCES

- **BioTech Connect** is an event held in spring at Colorado State University to

bring the BioTech community of Northern Colorado together with students and faculty to understand the partnerships that currently exist and explore new opportunities to collaborate on research areas. (<http://www.natsci.colostate.edu/career/biotech/>)

- **Colorado Life Science Deal Flow (CLSDF)** is a one-of-a-kind resource blog that tracks company deal news (funding, product milestones, M&A activity, etc.) and reports on the successes of Colorado tech transfer processes and innovation. (<http://www.clsdf.com>)
- **W3W3.Com** is an internet talk radio resource/online business magazine and aggregator of business development strategies. Colorado-specific industry tracking and resource news can be found at its bioscience channel. (<http://w3w3.com/Channels/Bio/index.html>)
- **SBIR Colorado** offers contracts to many smaller bioscience companies rely for development funding. (<http://www.sbircolorado.org/>)

## ENERGY

### OPPORTUNITIES

Colorado is a “balanced energy economy” with rich resources in both traditional energy (oil, natural gas and coal) and renewable energy (wind, solar, biomass and geothermal).

### REGULATORY ENVIRONMENT AND PUBLIC POLICY ORGANIZATIONS

- **Colorado Energy Science Center (CESC)** was founded by Battelle, Bechtel, and the Midwest Research Institute, who share in the management of the National Renewable Energy Laboratory, to increase the understanding and appreciation of energy science and technology in order to enable decision-makers to adopt energy practices that produce economic benefits, reduce environmental impacts, and increase the sustainability of energy supply. ([www.energyscience.org](http://www.energyscience.org))
  - **Colorado Governor’s Energy Office** leads Colorado to a New Energy Economy by advancing energy efficiency and renewable, clean energy resources. ([www.colorado.gov.energy](http://www.colorado.gov.energy))
  - **Colorado Oil and Gas Conservation Commission** promotes the responsible development of Colorado’s oil and natural gas resources. ([www.cogcc.state.co.us](http://www.cogcc.state.co.us))
  - **Federal Energy Regulatory Commission (FERC)** is an independent agency that regulates the interstate transmission of natural gas, oil, and electricity. FERC also regulates natural gas and hydropower projects. ([www.ferc.gov](http://www.ferc.gov))
  - **Presidential Climate Action Project (PCAP)** is a national initiative to develop a bold and decisive climate action plan for the next President of the United States. ([www.climateactionproject.com](http://www.climateactionproject.com))
- INDUSTRY-SPECIFIC LICENSES AND CERTIFICATIONS
- **Colorado Division of Registrations**  
State Electrical Board  
1560 Broadway Suite 1500  
Denver, CO 80202  
Phone: (303) 894-2984  
Fax: (303) 894-2310
  - **Colorado Journeyman & Apprentice Training for Operating Engineers**

Phone: (303) 623-8334

Training Site: (303)644-3909

To register for classes: (800) 639-2404 x12

- **Electric Power Training Center (EPTC)** is a program of the Western Area Power Administration provides high quality power system operations training. (eptc@wapa.gov)
- **Green Building Certificate. Colorado State University** is offered by the Department of Construction Management and has been developed in response to a growing need for specially trained professionals able to respond to a changing industry and culture. (www.learn.colostate.edu/certificates/noncredit/green-building.dot)
- **International Brotherhood of Electrical Workers, Local 68** (www.ibew68.com)
- **Leadership in Energy and Environmental Design (LEED)** – please see U.S. Green Building Council
- **North American Technician Excellence**

**(NATE)** is an industry-recognized certification program for technicians in the heating, ventilation, air-conditioning and refrigeration (HVAC/R) industry. (www.natex.org)

- **U.S. Green Building Council** (www.usgbc.org/LEED/)

**PROFESSIONAL ASSOCIATIONS**

- **American Council for an Energy-Efficient Economy** is a nonprofit, 501(c)(3) organization dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection. (http://www.aceee.org/)
- **American Petroleum Institute** provides members with certificate programs, research and statistics, policy work, and education. (http://www.api.org/)
- **American Solar Energy Society (ASES)** is a nonprofit organization dedicated to increasing the use of solar energy, energy ef-

iciency, and other sustainable technologies in the U.S. (www.ases.org)

- **American Wind Energy Association (AWEA)** is a national trade association representing wind power project developers, equipment suppliers, services providers, parts manufacturers, utilities, researchers, and wind energy advocates. (www.awea.org)
- **Colorado Mining Association (CMA)** (www.coloradomining.org)
- **Colorado Oil and Gas Association (COGA)** (www.coga.org)
- **Colorado Solar Energy Industries Association (CoSEIA)** (www.coseia.org)
- **Interwest Energy Alliance** is a trade association connected with the nation's renewable energy industry with the West's advocacy community to support state-level public policies that harness the West's abundant renewable energy and energy efficiency resources. Primary states of focus: Arizona,

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Colorado, Nevada, New Mexico, Utah and Wyoming. ([www.interwest.org](http://www.interwest.org))

- **National Association of Energy Service Companies (NAESCO)** promotes efficiency as the first priority in a portfolio of economic and environmentally sustainable energy resources and to encourage customers and public officials to think energy efficiency first when they are making energy resource procurement or energy policy choices. ([www.naesco.org](http://www.naesco.org))
- **National Electrical Manufacturing Association (NEMA)** was created in the fall of 1926 by the merger of the Electric Power

Club and the Associated Manufacturers of Electrical Supplies, provides a forum for the standardization of electrical equipment, enabling consumers to select from a range of safe, effective, and compatible electrical products. The organization has also made numerous contributions to the electrical industry by shaping public policy development and operating as a central confidential agency for gathering, compiling, and analyzing market statistics and economics. ([www.nema.org](http://www.nema.org))

- **Northern Colorado Clean Energy Cluster** is a business-led, project-oriented group

of regional partners seeking to have a global impact. Through mass collaboration, the Cluster intends to position Northern Colorado as the “Go To” region for smart grid technologies, renewable energy and energy efficiency, and cleaner and more efficient engines. ([www.nccleanenergy.com](http://www.nccleanenergy.com))

- **Eighth Continent Project** is a new initiative of the Colorado School of Mines. Eighth Continent provides the infrastructure and resources to solve a wide range of challenges from renewable energy development to biomedical advances to global security. Note – I took out the references to aerospace, even though that is 8th Continent’s big push, so that entrepreneurs considering the clean energy industry will know that this contact is relevant. ([www.8cproject.com](http://www.8cproject.com))

## INFORMATION TECHNOLOGY

### OPPORTUNITIES

Information Technology isn’t just considered software and hardware any more. The field now encompasses the Internet, voice, data, video, wireless, networking, software development, GIS, gaming, e-commerce, etc. An enormous amount of services and infrastructures literally support every type of business there is. Whatever your small business is, technology touches us all. In addition, Colorado ranks second in the nation of having the “highest concentration of tech workers.” (AeANet)

### REGULATORY ENVIRONMENT

The U.S. federal government implemented The Sarbanes-Oxley Act of 2002 which impacts every company and every IT entity within these companies. The Sarbanes-Oxley Act or (SOX) was “designed to target fraud, after a series of corporate scandals at Enron, WorldCom, and other major corporations.” (Inc.com)

### Resources

- **AICPA – The Center for Audit Quality** (<http://thecaq.aicpa.org/Resources/Sarbanes+Oxley/>)
- **SBA – Office of Advocacy** ([http://www.sba.gov/advo/laws/comments/sarbanes\\_oxley.html](http://www.sba.gov/advo/laws/comments/sarbanes_oxley.html))

**• The Sarbanes-Oxley Act Community**

**Forum** (<http://www.sarbanes-oxley-forum.com/>)

• **Smallbiztrends.com** (<http://www.smallbiztrends.com/2006/03/the-time-has-come-to-reform-sarbanes-oxley.html>)

• **Microsoft Small Business Center** (<http://www.microsoft.com/smallbusiness/resources/finance/legal-expenses/small-companies-paying-big-for-the-sins-of-enron.aspx>)

**INDUSTRY-SPECIFIC LICENSES AND CERTIFICATIONS**

IT Certifications range from Microsoft Office Applications to Wireless Networking.

**Microsoft Office Applications**

• Microsoft Office Specialist (MOS)

**Core IT Skills**

- CompTIA A+
- CompTIA Network+
- CompTIA Linux+
- Microsoft Certified Professional (MCP)

**Internet and Web Design**

- Master Certified Internet Webmaster (CIW) Designer
- Certified Internet Webmaster (CIW) Associate
- CompTIA i-Net

**Database Design and Administration**

- Oracle Database 10g Certified Professional Database Administrator (OCP DBA)
- Oracle Database 10g Certified Associate (OCA)
- Oracle9i Certified Professional Database Administrator (OCP DBA)
- Oracle 9i Certified Associate (OCA)
- Microsoft Certified Database Administrator (MCDBA)

**IT Engineering**

- Microsoft Certified Systems Engineer (MCSE)
- Microsoft Certified Systems Administrator (MCSA)
- Microsoft Certified Desktop Support Technician (MCDST)

**IT Security**

- CompTIA Security +
- Certified Information Systems Security Professional (CISSP)
- Microsoft Certified Systems Administrator - Security (MCSA-S)
- SANS Institute

**Network Design and Engineering**

- Cisco Certified Network Professional (CCNP)

**Software Development**

- Microsoft Certified Solution Developer for MS .NET (MCSD .NET)
- Microsoft Certified Application Developer (MCAD)
- Sun Certified Java Programmer (SCJP)

**Wireless Networking**

- Certified Wireless Network Associate (CWNA)

**Certification Web Sites**

- **Microsoft Certifications** (<http://www.microsoft.com/learning/mcp/certifications.msp>)
- **CompTIA Certifications** (<http://certification.comptia.org/>)
- **Certified Internet Web Certifications** (<http://www.ciwcertified.com/certifications/mcd.asp>)
- **Oracle Certifications** ([http://education.oracle.com/pls/web\\_prod-plq-dad/db\\_pages.getpage?page\\_id=14&p\\_org\\_id=1001&lang=US](http://education.oracle.com/pls/web_prod-plq-dad/db_pages.getpage?page_id=14&p_org_id=1001&lang=US))
- **(ISC)2 – International Information Systems Security Certification Consortium, Inc.** (<https://www.isc2.org/cgi-bin/content.cgi?category=7>)
- **Certified Information Systems Security Professionals** (<http://www.ciissp.com/Exam/exam.asp>)
- **SANS Institute** ([http://www.sans.org/sans2008/?utm\\_source=web&utm\\_medium=banner&utm\\_content=featured\\_event\\_large\\_fe\\_index\\_sans08&utm\\_campaign=SANS\\_2008&ref=21469](http://www.sans.org/sans2008/?utm_source=web&utm_medium=banner&utm_content=featured_event_large_fe_index_sans08&utm_campaign=SANS_2008&ref=21469))
- **Bicsi** ([http://www.bicsi.org/Content/Files/PDF/PDC\\_July%202007.pdf](http://www.bicsi.org/Content/Files/PDF/PDC_July%202007.pdf))
- **Cisco Certifications** ([http://www.cisco.com/web/learning/le3/learning\\_certification\\_overview.html](http://www.cisco.com/web/learning/le3/learning_certification_overview.html))

[http://www.cisco.com/web/learning/le3/learning\\_certification\\_overview.html](http://www.cisco.com/web/learning/le3/learning_certification_overview.html))

• **Sun (JAVA) Certifications**

(<http://www.sun.com/training/certification/java/index.xml>)

• **Linux Certifications** (<http://www.lpi.org/en/lpi/english/certification>)

• **Red Hat Certifications** (<https://www.redhat.com/certification/>)

• **Project Management Professional Certifications** (<http://www.pmi.org/CareerDevelopment/Pages/Obtaining-Credential.aspx>)

• **Novell Netware Certifications** (<http://www.novell.com/training/certinfo/>)

• **VMWare Certifications** (<http://mylearn.vmware.com/portals/certification/>)

**PROFESSIONAL ASSOCIATIONS**

- **Colorado Office of Economic Development and International Trade** ([www.advancecolorado.com](http://www.advancecolorado.com))
- **MetroDenver Economic Development Corporation** (<http://www.metrodenver.org>)
- **American Electronics Association Mountain States Council** (<http://www.aeanet.org/AeACouncils/MTCouncilStart.asp>)
- **Association of Information Technology Professionals – Mile High Chapter** (<http://www.denveraitp.org/>)
- **Colorado Game Developers Association** (<http://coloradogamedev.org/>)
- **Colorado Information Management Association** (<http://www.state.co.us/cima/>)
- **Colorado Software and Internet Association** (<http://www.csiaonline.com/>)
- **IEEE – Rocky Mountain Region** (<http://www.ieee-denver.org/>)
- **Information Systems Audit and Control Association (ISACA) – Denver Chapter** (<http://www.isaca-denver.org/>)
- **Information Systems Security Association (ISSA) – Denver Chapter** (<http://www.issa-denver.org/>)
- **Rocky Mountain Information Management Association (RMIMA)** (<http://www.rmima.org/>)
- **Storage Networking User Groups (SNUGs) – Colorado Front Range** ([http://www.storagenetworking.org/User\\_Groups/snug\\_profile.asp?id=145](http://www.storagenetworking.org/User_Groups/snug_profile.asp?id=145))