

# CURRICULUM VITAE

## Rodney Allan Hill

March 2012

Home address: 1417 Alpowa St, Moscow, ID 83843  
Home Phone: 208-883-5504, Cell: 208-310-6062

### EDUCATION:

---

1995	Doctor of Philosophy	Development of a $\beta_2$ -adrenoceptor vaccine, Central Queensland University.
1987	Master of Science Qualifying	Quantitative distribution of <i>Brucella suis</i> antibody amongst bovine immunoglobulin classes, University of Queensland.
1985	Bachelor of Applied Science, (Biology)	Central Queensland University.

### POSITIONS AND RESPONSIBILITIES:

---

7/2011-present	<p>During this post-American Council on Education Fellowship period, I have been working with the Vice President for Research and Economic Development in formulating strategies in the following areas:</p> <ol style="list-style-type: none"><li>1. Development of a Think-Tank of North-West, High Research Activity University participants. Objective: To bring together a strategic alliance to position in influencing federal and other nation strategic funding decisions for the mutual benefit of the participating institutions.</li><li>2. Providing recommendations to the Idaho Board of Regents. Objective: To provide a framework and rationale around the contribution of research to the activities of the university and the benefits that accrue to the citizens of Idaho.</li></ol> <p>Also currently developing a position description for this role.</p>
3/2010 – 6/2011	<p><b>Fellow, American Council on Education, National Fellows Program</b></p> <p>Nominated by President Nellis – Developed leadership study of higher education – federal government interface and the processes that influence higher education policy development. Fall 2010 placement at the University of Michigan under mentorship of Vice President for Government Relations, Cynthia Wilbanks. Activities included research of interactions of national bodies :</p> <ul style="list-style-type: none"><li>• US Congress</li><li>• Association of Public and Land-Grant Universities</li><li>• Association of American Universities</li><li>• The Science Coalition</li><li>• The National Academies</li><li>• The American Association for the Advancement of Science</li><li>• Consortium of Social Science Associations</li><li>• Council on Competitiveness</li><li>• The University of Michigan, Washington Office.</li></ul> <p>Spring 2011 – developing understanding of leadership challenges in Idaho. Shadowing President Nellis 1 day per month.</p>
7/2008-6/2011	<p><b>Secretary of the Faculty</b> (50%, with release from teaching role), University of Idaho (report to Provost).</p> <p>Participate in shared governance faculty leadership team. Work with the executive leadership in strategic planning and policy development. In a collaborative faculty leadership–shared governance culture, develop and review all aspects of the academic programs of the university.</p>

## POSITIONS AND RESPONSIBILITIES:

---

2006- present	<b>Associate Professor of Physiology</b> , (Research 70% / Teaching 30%) University of Idaho.
2001-2006	<b>Assistant Professor of Physiology</b> , (Research 70% / Teaching 30%), University of Idaho.
1994-2001	<b>Scientist and Project Leader</b> (Growth Physiology), Agency for Food and Fibre Sciences, Queensland, Australia.
1994-1995	Sabbatical Leave to Cambridge UK. Collaboration with Dr JM Pell, Babraham Institute, Cambridge, UK. Growth-enhancing properties of anti-IGF-1 antibodies.
1991-1994	<b>Doctoral Candidate</b> , Tropical Beef Centre, and joint report to University of Queensland and Central Queensland University, Australia.
1985-1994	<b>Graduate Officer</b> , Agency for Food and Fibre Sciences, Queensland, Australia, Diagnostic support (50%) Research (50%) State Veterinary Pathology Laboratory.

## HONORS AND AWARDS:

---

2010-11	American Council on Education – National Fellowship Program - Fellow 2010-11.
2009	Associated Students of the University of Idaho, Student Achievement Awards – Outstanding Faculty Award.
2008	University of Idaho Alumni Association Award for Excellence – jointly conferred to Dr. Hill and student Daniel Julien.
2004-Present	Member, Gamma Sigma Delta; The Honor Society of Agriculture.
1995-Present	Honorary Fellow, Central Queensland University.

## KEY COMPETENCIES / TRANSFERABLE SKILLS

---

Leadership	During a 30+ year career, having worked in heavy industry (5 years), built and run my own retail business (7 years), as a research scientist and program director (7 years), in a faculty role (10 years), in shared governance leadership (3 years), in national/international scientific leadership roles: Section Editor (11 Associate Editors, Animal: An International Journal of Animal Biosciences) multiple national panel review (NIH, NSF, USDA-NIFA, American Heart Assn) and through prestigious, national higher education leadership training programs (ESCOP/ACOP, and ACE Fellowship), I am broadly experienced and highly trained in effective leadership.
Strategic Vision	My vision is to engage higher education in global thinking. <b>Concepts:</b> Removing barriers, broad collaboration: HE, industry and commerce, the public sector, alliances with other HE institutions, state and federal governments, NGOs, K-12. <b>Objective:</b> A higher education global community. <b>Skills:</b> Thinking globally, predicting national-international trends, visioning for institutional positioning.
Policy Development	Strong interest in HE policy. <b>Experience:</b> Key responsibilities as Secretary of the Faculty (institutional policy development and review). Focus of my ACE placement (HE-federal government strategic interface) – processes and organizational players (over 60 organizations in Washington, DC that participate in lobbying and influencing policy development). Member of my discipline society Public Policy Committee. AAAS symposium organizer (multiple years). <b>Skills:</b> networking, collaborative policy development, writing policy.

## KEY COMPETENCIES / TRANSFERABLE SKILLS

---

Communication	<p><b>Experience:</b> Skilled listener. Writing: High level scientific writing. High level, broad HE writing. High level policy writing. Oral: multiple forums (large/small groups and individuals): with legislators, congressmen, congressional staff; public sector; HE leadership; HE national organization leaders; national funding agency leaders; scientists and academics; students; industry and commerce leaders and participants, alumni, donors, press and electronic media.</p>
Supplementary Competencies	<p>Interest and skills through non-core responsibilities / committee work and leadership training: <b>Institutional Budget:</b> Committee experience budget development and review. Specific training (ACE- budget development, resource allocation, fund accounting, ratio analysis, working effectively with governing boards). <b>Diversity:</b> Personal Diversity Statement: I am passionately committed to <i>affirmative action and diversity</i>, not because this is some ideological position, but because I truly believe that diversity of perspective and background brings new insight and intellectual power to solving many of society's complex problems.</p> <p>Higher education must evolve away from individualism and embrace interdependence, team-work and shared vision. A strong culture that cares for our colleagues, our students, and all of those with whom we interact and one that does not discriminate is a powerful force towards greater enlightenment. It has integrity and is ethically and morally sound.</p> <p>Diversity builds richness in perspective, and our collective intellect and insight, driving inspiration and generating synergy. By valuing all cultures, creeds, races and orientations, we will build stronger and more successful communities.</p>

## RECENT ADMINISTRATIVE ACHIEVEMENTS:

---

2011	Secretary of the Faculty: - Working as a member of the faculty leadership team, led a faculty senate response to Idaho House Bill 222. Working with executive leadership, submitted the faculty response to the Idaho Senate, Senate State Affairs Committee and the Idaho Governor: It was resolved that the University of Idaho Faculty Senate recommends that the Idaho Senate State Affairs Committee, Idaho State Senators, and Idaho Governor C. L. "Butch" Otter oppose HB 222; and further resolved that the University of Idaho Faculty Senate supports existing statutes and the public opinions of Idaho law enforcement that promote the value of local decision making in forming policies and procedures that underpin safety for all university employees, students and visitors to campus.
2010-2011	American Council on Education – National Fellows Program.
2009	Secretary of the Faculty: <ul style="list-style-type: none"><li>• Led Constitutional Change to include 200 faculty from across the state of Idaho who were not previously able to participate in General Faculty Meetings. This required multiple changes to the Constitution in the Faculty Staff Handbook and establishment of the Secretary as Chair of a new committee: the University Multi-Campus Communications Committee.</li><li>• Led joint faculty leadership group meetings between University of Idaho faculty leadership and Washington State University faculty leadership to advance inter-institutional cooperation to improve synergy and efficiencies of the two adjacent universities.</li></ul>
2007-2008	University Budget and Finance Committee UBFC Deferred Maintenance Sub-Committee (Chair). The UBFC subcommittee on Deferred Maintenance reviewed the \$200million deferred maintenance issue at the

## RECENT ADMINISTRATIVE ACHIEVEMENTS:

---

University of Idaho. The committee submitted a major report to UI administration and the broader UI community including the Faculty Council in the Spring of 2008. The report provided eleven major strategic recommendations for dealing with the Deferred Maintenance issue.

## SERVICE / SCIENCE LEADERSHIP – NATIONAL / INTERNATIONAL

### National Funding Agency Panels:

---

- |      |  |
|------|--|
| 2012 | American Association for the Advancement of Science -Research Competitiveness Program King Abdulaziz City for Science and Technology Review Panel<br>National Science Foundation – Major Instrumentation Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.   |
| 2011 | National Science Foundation – Major Instrumentation Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.  |
| 2010 | National Institutes of Health - Nanotechnology Study Section – NANO Bioengineering Sciences & Technologies Integrated Review Group.  |
| 2009 | National Science Foundation – Major Instrumentation Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.<br>National Science Foundation – BISH Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.<br><br>National Institutes of Health - Nanotechnology Study Section – NANO Bioengineering Sciences & Technologies Integrated Review Group.<br><br>National Institutes of Health - Special Emphasis Panel -Growth Factors, Cell Migration and Mechanosensors. |
| 2008 | National Science Foundation – BISH Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.<br>National Institutes of Health - Nanotechnology Study Section – NANO Bioengineering Sciences & Technologies Integrated Review Group.<br>American Heart Association, Molecular Signaling 2 Peer Review Study Group   |
| 2007 | National Science Foundation – CAREER Panel - Division of Chemical, Bioengineering, Environmental, and Transport Systems.<br>NRI-USDA Animal Growth & Nutrient Utilization.<br>American Heart Association, Molecular Signaling 2 Peer Review Study Group.   |
| 2006 | NRI-USDA Animal Growth & Nutrient Utilization.<br>American Heart Association, Molecular Signaling 2 Peer Review Study Group.   |
| 2005 | American Heart Association, Molecular Signaling 2 Peer Review Study Group.   |

## SERVICE / SCIENCE LEADERSHIP – NATIONAL / INTERNATIONAL

### Ad Hoc Grant Review:

---

- |      |  |
|------|--|
| 2007 | United States-Israel Binational Agricultural Research & Development Fund<br>NRI - United States Department of Agriculture<br>American Diabetes Association |
| 2006 | NRI - United States Department of Agriculture  |
| 2005 | NRI -United States Department of Agriculture   |

**SERVICE / SCIENCE LEADERSHIP – NATIONAL / INTERNATIONAL**  
**Ad Hoc Grant Review:**

---

2004	Natural Sciences and Engineering Research Council of Canada NRI-United States Department of Agriculture Australian Research Council
2003	NRI-United States Department of Agriculture Australian Research Council National Health and Medical Research Council of Australia
2002	NRI-United States Department of Agriculture Australian Research Council National Health and Medical Research Council of Australia
2001	Australian Research Council National Health and Medical Research Council of Australia
2000	Australian Research Council National Health and Medical Research Council of Australia

**SERVICE / SCIENCE LEADERSHIP – NATIONAL / INTERNATIONAL**  
**Editorial:**

---

2006-Present	Section Editor, Physiology and Functional Biology Section, ANIMAL, The International Journal of Animal Biosciences and joint official journal of INRA, BSAS & EAAP.
2009-Present	Associate Editor, Nanomedicine: Nanotechnology, Biology, and Medicine (first impact factor – June 2010 = 5.44).
2004-2008	Editorial Board, Domestic Animal Endocrinology
2003-2005	Section (Senior) Editor, Growth, Development and Meat Science section, Animal Science, <i>Journal of the British Society of Animal Science</i> .  Editorial Board, Journal of Animal Science
1999 - 2002	Editor, Growth, Development and Meat Science Section, Animal Science, <i>Journal of the British Society of Animal Science</i>

**SERVICE / SCIENCE LEADERSHIP – NATIONAL / INTERNATIONAL**  
**Ad Hoc Journal Review:**

---

1999 - present	• Nanomedicine:NBM • Domestic Animal Endocrinology • Animal • American Journal of Physiology • Advances in Physiology Education • Journal of Animal Science • International Journal of Obesity • Aquaculture Research • Animal Science • Experimental Biology and Medicine • Comparative Biochemistry and Physiology • Journal of Endocrinology • Journal of Primatology
----------------	--

**SERVICE / LEADERSHIP – NATIONAL**  
**Higher Education and Scientific Committees:**

---

2012	American Council on Education – Council of Fellows – Finance and Development Committee – Co-Chair (Development) State of Missouri - Experimental Program to Stimulate Competitive Research (EPSCoR), National Science Foundation (NSF) – State Advisory Board Member.  American Association for the Advancement of Science Section O, Agriculture, Food, and Renewable Resources, delegate.
------	---

**SERVICE / LEADERSHIP – NATIONAL**  
**Higher Education and Scientific Committees:**

---

- ASAS Representative to the American Association for the Advancement of Science Council.  
American Association for the Advancement of Science National Meeting 2012. **Symposium Organizer** (co-organizer, Medvitz, A.): *Sub-Saharan Africa: Livestock Science Provides New Hope and Faces New Challenges*.
- CSREES-supported Scientific Committees:  
Integrated Approach to Enhance Efficiency of Feed Utilization in Beef Production Systems. (Western Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – W-1010), Inaugural Chair.
- The American Society of Animal Science: Public Policy Committee (2010-2013).
- 2011 American Association for the Advancement of Science Section O, Agriculture, Food, and Renewable Resources, delegate.  
ASAS Representative to the American Association for the Advancement of Science Council.
- CSREES-supported Scientific Committees:  
Integrated Approach to Enhance Efficiency of Feed Utilization in Beef Production Systems. (Western Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – W-1010), Inaugural Chair.
- The American Society of Animal Science: Public Policy Committee (2010-2013).
- 2010 American Association for the Advancement of Science Section O, Agriculture, Food, and Renewable Resources, delegate.  
ASAS Representative to the American Association for the Advancement of Science Council.
- American Association for the Advancement of Science National Meeting 2010. **Symposium Organizer** (Co-organizer, Branen, L.): *Healthy and Plentiful Animal-Based Foods: Science Offers New Possibilities*
- CSREES-supported Scientific Committees:  
Integrated Approach to Enhance Efficiency of Feed Utilization in Beef Production Systems. (Western Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – W-1010), **Past Chair** 2009-2010.
- The American Society of Animal Science: Growth and Development Joint Program Committee. 2009-2010. **Chair**.
- The American Society of Animal Science: Public Policy Committee (2010-2013).
- 2009 American Association for the Advancement of Science Section O, Agriculture, Food, and Renewable Resources, delegate.  
ASAS Representative to the American Association for the Advancement of Science Council.
- American Association for the Advancement of Science National Meeting 2009. **Symposium Organizer**: *From Donuts to Drugs: Nano-Biotechnology Evolution or Revolution?*
- CSREES-supported Scientific Committees:  
Integrated Approach to Enhance Efficiency of Feed Utilization in Beef Production Systems. (Western Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – W-1010), **Inaugural Chair** 2008-2009.



**SERVICE / LEADERSHIP – NATIONAL**  
**Higher Education and Scientific Committees:**

---

- The American Society of Animal Science: Growth and Development Joint Program Committee. 2008-2009. **Chair.**
- 2008 CSREES-supported Scientific Committees:  
Integrated Approach to Enhance Efficiency of Feed Utilization in Beef Production Systems. (Western Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – W-1010), **Inaugural Chair** 2008-2009.  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-1131)  
The American Society of Animal Science: Growth and Development Joint Program Committee. 2007-2008
- 2007 CSREES-supported Scientific Committees:  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-1131)  
The American Society of Animal Science: Growth and Development Joint Program Committee. 2007-2008
- 2006 CSREES-supported Scientific Committees:  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-1131)
- 2005 CSREES-supported Scientific Committees:  
Obesity and Nutrition committee - w\_temp1187  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-131)
- 2004 CSREES-supported Scientific Committees:  
Obesity and Nutrition committee (newly formed – first meeting October 2004) - w\_temp1187  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-131)  
Beef Cattle Energetics (Western Central Committee Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – WCC-92) **Chair, 2003-04**
- 2003 CSREES-supported Scientific Committees:  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-131)  
Beef Cattle Energetics (Western Central Committee Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – WCC-92)  
**Chair, 2003-04, Secretary, 2002-03**
- 2002 CSREES-supported Scientific Committees:  
Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (North-Central Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – NC-131)  
Beef Cattle Energetics (Western Central Committee Regional Association of Agricultural Experiment Station Directors, Multi-State Research Project – WCC-92)  
**Secretary, 2002-03.**

## SERVICE / SCIENCE LEADERSHIP – NATIONAL

### National Industry:

---

2007-2010 Beef Improvement Federation – Sub-Committee - Individual Feed Intake Recording Guidelines

2007 National Beef Cattle Evaluation Consortium: Scientific Advisory Group “*The Use of Insulin-like Growth Factor I (IGF-I) as an Indicator Trait in a Genetic Evaluation for Feed Efficiency.*”

### SERVICE – University of Idaho

#### University and College Committees:

---

2012 Research Council  
Committee on Committees

2011 Research Council, fall  
Secretary of the Faculty (through 6-30-11)  
Faculty Senate (secretary), spring.  
University Curriculum Committee, spring  
Committee on Committees  
Facilities Planning Committee, spring

2010 Secretary of the Faculty  
Faculty Senate (secretary), spring semester.  
University Curriculum Committee  
Committee on Committees  
Facilities Planning Committee  
Dismissal Hearings Committee (alternate member)

2009 Secretary of the Faculty  
Faculty Senate (secretary)  
University Curriculum Committee  
Committee on Committees  
Facilities Planning Committee  
Dismissal Hearings Committee (alternate member)  
University of Idaho Seed Grant Review Panel  
GPSA Student Research Expo Competition Judge

2008 Secretary of the Faculty  
Faculty Council (secretary)  
University Curriculum Committee  
Facilities Planning Committee  
University Judicial Council (Chair)  
University Budget and Finance Committee  
Committee on Committees  
Dismissal Hearings Committee (alternate member)  
GPSA Student Research Expo Competition Judge

2007 University Judicial Council (Chair)  
University Budget and Finance Committee  
UBFC Deferred Maintenance Sub-Committee (Chair)  
Committee on Committees  
Dismissal Hearings Committee (alternate member)  
Finance and Administration Capital Improvement Prioritization Committee  
Idaho State Board of Education – UI Internal Grant Review Panel  
GPSA Student Research Expo Competition Judge

2006 University Budget and Finance Committee



**SERVICE – University of Idaho**  
**University and College Committees:**

---

	UBFC Deferred Maintenance Sub-Committee (Chair) Committee on Committees Dismissal Hearings Committee (alternate member)
2005	University Budget and Finance Committee Committee on Committees
2004	Committee on Committees
2003	CALS Dean Search Committee Committee on Committees
2002	Committee on Committees

**SERVICE – University**  
**Animal and Veterinary Science Department Committees:**

---

2010	AVS Research Resources Committee. Beef Faculty Sub-Committee
2009	AVS Research Resources Committee. Beef Faculty Sub-Committee
2008	AVS Research Resources Committee. Beef Faculty Sub-Committee Support Scientist Search (Murdoch Program) Research Scientist Search (Hill Program) <b>Chair.</b>
2007	Search Committee - Assistant Professor (Meat Scientist). AVS Research Resources Committee. Third year Review Committee – Dr Ahola.
2005	Search Committee - Assistant Professor (Animal Physiology) (Chair)
2004	Search Committee Research Support Scientist (Growth Biology) (Chair)
2003	Search Committee - Beef Extension Specialist

**PROFESSIONAL AND SCHOLARLY ORGANIZATIONS:**

---

American Association for the Advancement of Science  
American Society for Nanomedicine  
American Physiological Society  
American Society of Animal Science  
British Society of Animal Science  
Society for College and University Planning

**PROFESSIONAL DEVELOPMENT:**

---

2010-2011	American Council on Education – National Fellowship Program - Fellow.
2004-2005	ESCOPE/ACOP Leadership Development Program, Experiment Station Committee on Organization and Policy/ Academic Programs Committee on Organization and Policy, NASULGC (now APLU) 2004-05
2003	Leadership Idaho Agriculture, LIA Foundation, Spring 2003
2002	Promotion/Tenure Workshop, University of Idaho, October 2002 Advising the Adviser Workshop, University of Idaho, March 2002

## PROFESSIONAL DEVELOPMENT:

2000 Advanced Negotiation Skills, Australian Institute of Management

## PUBLICATIONS:

### Career Publications Summary:

National / International Refereed Journals:	41	Conference Articles:	80
Books:	1	NCBI Genbank submissions	4
Book Chapters:	9	Leadership	3
Other Published Refereed:	3	Outreach:	14
Editorials:	1	Provisional Patents:	3
Invited Scientific Presentations:	17		

### Refereed Journal Articles:

- 2012 47. Jurij Wacyk, J., Powell, M., Rodnick, K., Overturf, K., **Hill, R.A.** and Hardy, R.W. (2012). Dietary protein source significantly alters growth performance, plasma parameters and hepatic transcriptional activity in rainbow trout (*Oncorhynchus mykiss*) fed amino acid balanced diets. *Aquaculture*. (submitted).
46. McGee, M., Welch, C.M., Hall, J.B., Small, W. and **Hill, R.A.** (2012). Optimizing Feed Efficiency, Growth and Marbling in Wagyu Cattle. *Professional Animal Scientist*. (submitted)
45. Welch, C.M., Ahola, J.K., Hall, J.B., Murdoch, G.K., Crews Jr., D.H., Szasz, J.I., Davis, L.C., Doumit, M.E., Price, W.J., Keenan, L.D. and **Hill, R.A.** (2012). Relationships among performance, residual feed intake, and product quality of progeny from Red Angus sires divergent for maintenance energy EPD. *Journal of Animal Science*. (submitted).
44. Chapalamadugu, K.C., Murdoch, B.M., Sarver, B.A.J., Robison, B.D., **Hill, R.A.** and Murdoch, G.K. (2012). Rainbow trout Pax7 sequence and comparative analyses with other species variants. *Comparative Biochemistry & Physiology Part D: Genomics and Proteomics* (in revision).
43. Powell, M.S., Robison, B.D., Rodnick, K.J., Murdoch, G.K., **Hill, R.A.**, Plant, K.P., Drew, R.E., Barrows, F.T. and Hardy, R.W. (2012). Transcriptional and Physiological Effects Vary Temporally in Juvenile Rainbow Trout (*Oncorhynchus mykiss*) with Dietary Starch Levels. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* (in revision).
42. Papasani, M.R., Behnke, S.R., Rodgers, B.D. and **Hill, R.A.** (2012). Novel expression of insulin genes in zebrafish and regulation of the second insulin gene promoter activity by the transcription factor, pancreatic and duodenal homeobox-1 (PDX-1). *General and Comparative Endocrinology. (Communications in Genomics and Proteomics)*. (in revision).
41. Papasani, M.R., Wang, G., and **Hill, R.A.** (2012). Gold nanoparticles: the importance of physiological principles to devise strategies for targeted drug delivery. *Nanomedicine: Nanotechnology, Biology and Medicine*. (accepted).
- 2011 40. Snyder, G.S., Gaylord, T.G., Barrows, F.T., Overturf, K., Cain, K.D., **Hill, R.A.** and Hardy, R.W. (2011). Effects of Carnosine Supplementation to an all-Plant Protein Diet for Rainbow Trout (*Oncorhynchus mykiss*). *Aquaculture*. (accepted).
39. Cheguru, P., Chapalamadugu, K.C., Doumit, M.E., Murdoch, G.K. and **Hill, R.A.** (2011). Adipocyte differentiation-specific gene transcriptional response to C18 unsaturated fatty acids plus insulin. *Pflügers Archiv-European Journal of Physiology*. (accepted) . DOI: 10.1007/s00424-011-1066-7
- 38 Thornton, K.J., Welch, C.M., Davis, L.C., Doumit, M.E., **Hill, R.A.** and Murdoch, G.K. (2011).

- Bovine sire selection based upon maintenance energy impacts muscle fiber type and meat color of F1 progeny. *Journal of Animal Science*. (accepted). doi 10.2527/jas.2011-4678
37. Wang, G., Papasani, M.R., Cheguru, P., Hrdlicka, P.J. and **Hill, R.A.** (2011). Gold-Peptide Nanoconjugate Cellular Uptake is modulated by Serum Proteins. *Nanomedicine: Nanotechnology, Biology and Medicine*. (accepted). d.o.i.10.1016/j.nano.2011.10.007
36. Julien, D.C., Behnke, S., Wang, G., Murdoch, G.K. and **Hill, R.A.** (2011). Utilization of Monoclonal Antibody-Targeted Nanomaterials in the Treatment of Cancer. *mAbs* 3:467-478.
35. Ahola, J.K., Skow, T.A., Hunt, C.W. and **Hill, R.A.** (2011). Relationship Between Residual Feed Intake and End Product Palatability in Longissimus Steaks from Steers Sired by Angus Bulls Divergent for Intramuscular Fat Expected Progeny Difference. *Professional Animal Scientist*.27:109-115.
34. Kriegel, C., Koehne, J., Tinkle, S, Maynard, A. and **Hill, R.A.** (2011). Challenges of Trainees in a Multidisciplinary Research Program: Nano-Biotechnology. *Journal of Chemical Education*. 88:53-55.
- 2010 33. Østergaard, M., Cheguru, P., Papasani, M.R., **Hill, R.A.** and Hrdlicka, P.J. (2010) Glowing Locked Nucleic Acids (LNAs) – Brightly Fluorescent Probes for Detection of Nucleic Acids in Cells. *Journal of the American Chemical Society*. 132:14221-14228.
32. Wulfhorst, J.D., Ahola, J.K., Kane, S.L., Keenan, L.D. and **Hill, R.A.** (2010). Factors affecting beef cattle producer perspectives on feed efficiency. *Journal of Animal Science*. 88: 3749-3758.
31. Smith, N.N., Kelly, M.J., Pell, J.M. and **Hill, R.A.** (2010) Administration of bovine anti-IGF-1 Immunoglobulin to dietary protein deficient rats alters dietary intake and plasma IGF-1 binding profiles, but does not affect change in body mass. *Animal*. 4:1553-1560.
30. Julien. D.C., Richardson, C.C., Beaux II, M.F., McIlroy, D.N. and **Hill, R.A.** (2010). *In vitro* proliferating cell models to study cytotoxicity of silica nanowires. *Nanomedicine: Nanotechnology, Biology, and Medicine*. 6:84-92.
- 2009 29. Allen, J.D., Ahola, J.K., Chahine, M., Szasz, J.I., Hunt, C.W., Schneider, C.S., Murdoch, G.K. and **Hill, R.A.** (2009). Effect of feeding period and ractopamine hydrochloride on feedlot performance, carcass characteristics, and end product quality in market dairy cows. *Journal of Animal Science*. 87: 2400-2408.
28. Chapalamadugu, K.C., Robison, B.D., Drew, R.E., Powell, M.S., **Hill, R.A.**, Amberg, J.J., Rodnick, K.J., Hardy, R.W., Hill, M.L. and Murdoch, G.K. (2009). Dietary carbohydrate level affects transcription factor expression that regulates skeletal muscle myogenesis in rainbow trout. *Comparative Biochemistry and Physiology (Part B)*. 153: 66-72.
- 2008 27. Drew, R.E., Rodnick, K.J., Settles, M., Wacyk, J., Churchill, E., Powell, M., Hardy, R.W., Murdoch, G.K., **Hill, R.A.** and Robison, B.D. (2008). Effect of starvation on the transcriptomes of the brain and liver in adult female zebrafish (*Danio rerio*). *Physiological Genomics*. 35: 283-295.
26. **Hill, R.A.**, Flint, D. J. and Pell, J.M. (2008). Antibodies as molecular mimics of biomolecules: roles in understanding physiological functions and mechanisms. *Advances in Physiology Education*. 32: 261-273.
25. Robison, B.D., Drew, R.E., Murdoch, G.K., Powell, M., Rodnick, K.J., Settles, M., Stone, D.A.J., Churchill, E., **Hill, R.A.**, Papasani, M.R., Lewis, S.S. and Hardy, R.W. (2008). Sexual dimorphism in hepatic gene expression and the response to dietary carbohydrate manipulation in the zebrafish (*Danio rerio*). *Comparative Biochemistry and Physiology, Part D*

## Refereed Journal Articles:

---

- Genomics and Proteomics* 3:141-154.
- 2007 24. Kokta, T.A., Strat, A.L., Papasani, M.R., Szasz, J.I., Dodson, M.V. and **Hill, R.A.** (2007). Regulation of Lipid Accumulation in 3T3-L1 Cells: Insulin-Independent and Combined Effects of Fatty Acids and Insulin. *Animal*. 2: 92-99.
- 2006 23. Papasani, M.R., Robison, B.D., Hardy, R. W. and **Hill R.A.** (2006). Early developmental expression of two insulins in zebrafish. *Physiological Genomics* 27:79-85.
22. Baker, S.D., Szasz, J.I., Klein, T.A., Kuber, P.S., Hunt, C.W., Glaze Jr., J.B., Falk, D., Richard, R., Miller, J.C., Battaglia, R.A. and **Hill, R.A.** (2006). Residual Feed Intake of Purebred Angus Steers: Effects on Meat Quality and Palatability. *Journal of Animal Science* 84:938-945.
- 2005 21. Strat, A.L., Kokta, T.A., Dodson, M.V., Gertler, A., Wu, Z. and **Hill, R.A.** (2005). Early Signaling Interactions between the Insulin and Leptin Pathways in Bovine Myogenic Cells. *Biochimica et Biophysica Acta* 1744:165-174.
20. Fernyhough, M.E., Helderline, D.L., Vierck, J.L., Hausman, G.J., **Hill, R.A.** and Dodson, M.V. (2005). Dedifferentiation of mature adipocytes to form adipofibroblasts: 1. More than just a possibility *Adipocytes* 1:17-24.
19. Kinkel, A.D., Fernyhough, M.E., Helderline, D.L., Vierck, J.L., Oberg, K.S., Vance, T.J., Hausman, G.J., **Hill, R.A.** and Dodson, M.V. (2005) Oil red-O stains non-adipogenic cells: A precautionary note. *Cytotechnology*. 46:1-8.
- 2004 18. **Hill, R.A.**, Strat, A.L., Hughes, N.J., Kokta, T.A., Dodson, M.V., and Gertler, A. (2004). Early Insulin Signaling Cascade In A Model of Oxidative Skeletal Muscle: Mouse Sol8 Cell Line. *Biochimica et Biophysica Acta*. 1693:205-211.
17. Fernyhough, M.E., Helderline, D.L., Vierck, J.L., **Hill, R.A.** and Dodson, M.V. (2004). Coulter Counter use in the enumeration of muscle and fat stem cells. *Methods in Cell Science* 25(3-4):221-225.
16. Kokta, T.A., Dodson, M.V., Gertler, A. and **Hill, R.A.** (2004). Intercellular Signaling Between Adipose Tissue and Muscle Tissue. *Domestic Animal Endocrinology*. 27: 301-331.
- 2003 15. Hendricksen, R.E., Gazzola, C., Reich, M.M., Robertson, R.F., Reid, D.J., and **Hill, R.A.** (2003) Using molasses as an alternative to controlled release devices for administering n-alkane markers to cattle *Animal Science* 76:471-480.
- 2002 14. Margetic, S., Gazzola, C., Pegg, G.G. and **Hill, R.A.** (2002) Leptin: a review of its peripheral actions and interactions. *International Journal of Obesity and Related Metabolic Disorders* 26:1407-1433.
13. Margetic, S., Gazzola, C., Pegg, G.G. and **Hill, R.A.** (2002) Characterisation of leptin binding in bovine kidney membranes. *Domestic Animal Endocrinology*. 23: 411-424.
12. Gazzola, C., Jeffery, M.R., White, D.H., **Hill, R.A.** and Reid, D.J. (2002) Effect of delayed castration on growth rate, behaviour and serum insulin-like growth factor-1 concentration on beef cattle on tropical pasture. *Animal Science* 75: 41-47.
11. Hendricksen, R.E., Reich, M.M., Robertson, R.F., Reid, D.J., Gazzola, C., Rideout, J.A. and **Hill, R.A.** (2002) Predicting the voluntary intake and digestibility of tropical pasture hays using alkanes *Animal Science* 74:567-577.

## Refereed Journal Articles:

---

- 2001 10. Gazzola, C., Jeffery, M.R., White, D.H., **Hill, R.A.** and Reid, D.J. (2001) Effect of age of castration, oestradiol treatment and genotype on the fat colour of pasture-fed beef cattle. *Animal Science* 73: 261-266.
- 2000 9. Pell, J.M., **Hill, R.A.**, Stewart C.E.H., Weston, C.R., and Flick-Smith, H.C. (2000) Enhancement of IGF-I activity by novel antisera: potential structure/function interactions. *Endocrinology* 141: 741-751.
- 1999 8. **Hill, R.A.**, Hunter, R.A., Lindsay, D.B., and Owens, P.C. (1999) Action of Long (R3)-IGF-1 on protein metabolism in beef heifers. *Domestic Animal Endocrinology* 16: 219-229.
- 1998 7. **Hill, R.A.**, Margetic, S., Pegg, G.G. and Gazzola, C. (1998) Leptin: its pharmacokinetics and tissue distribution. *International Journal of Obesity and Related Metabolic Disorders*. 22: 765-770.
6. **Hill, R.A.**, Hoey, A.J., and Sillence, M.N. (1998) Functional activity of antibodies at the bovine  $\beta_2$ -adrenoceptor. *Journal of Animal Science* 76: 1651-1661.
5. **Hill, R.A.** and Pell, J.M. (1998) Regulation of Insulin-Like Growth Factor I (IGF-I) Bioactivity in Vivo: Further Characterization of an IGF-I-Enhancing Antibody. *Endocrinology* 139: 1278-1287.
- 1997 4. **Hill, R.A.**, Flick-Smith, H.C., Dye, S., and Pell, J.M. (1997) Actions of an IGF-1 enhancing antibody on IGF-1 pharmacokinetics and tissue distribution: increased IGF-1 bioavailability. *Journal of Endocrinology* 152: 123-130.
3. **Hill, R.A.** and Sillence, M.N. (1997) Improved membrane isolation in the purification of  $\beta_2$ -adrenoceptors from transgenic Escherichia coli. *Protein Expression and Purification* 10: 162-167.
- 1995 2. Pell, J.M., Flick-Smith H.C., Dye, S. and **Hill, R.A.** (1995) Further characterization of an IGF-1 enhancing antibody: actions on IGF-induced hypoglycaemia and interaction with the analogue LR3IGF-1. *Progress in Growth Factor Research* 6: 367-75.
- 1994 1. **Hill, R.A.** and Cook, D.R. (1994) Protein profiles of *Brucella suis* and *Brucella abortus* in isoelectric focusing and sodium-dodecyl sulphate polyacrylamide gel electrophoresis. *Veterinary Microbiology*. 39:25-32.

## Books

---

- 2012 **Hill, R.A.** (editor). (2012). (delivered under contract 12/01/11). Feed Efficiency in the Beef Industry. (322 pages, 60 line drawings, 60 B&W photographs, 50 Tables.) with 33 contributors. Wiley-Blackwell, Ames, Iowa.

## Book Chapters:

---

- 2012 **Hill, R.A.** (2012). Introduction. In : **Hill, R.A.** (editor). Feed Efficiency in the Beef Industry. Wiley-Blackwell, Ames, Iowa.

Ahola, J.K. and **Hill, R.A.** (2012). Input Factors Affecting Profitability: A Changing Paradigm and a Challenging Time. (Chapter 1) In: **Hill, R.A.** (editor). Feed Efficiency in the Beef Industry. Wiley-Blackwell, Ames, Iowa.

Wulfhorst, J.D., Kane, S., Ahola, J.K., Hall, J.B. and **Hill, R.A.** (2012) Producer Awareness and Perceptions of Feed Efficiency (Chapter 3) In: **Hill, R.A.** (editor). Feed Efficiency in the Beef Industry. Wiley-Blackwell, Ames, Iowa.

**Hill, R.A.** and Ahola, J.K. (2012). Interactions with other Traits: Growth and Product Quality.

(Chapter 10). In: **Hill, R.A.** (editor). *Feed Efficiency in the Beef Industry*. Wiley-Blackwell, Ames, Iowa.

Welch, C.M., McGee, M., Kokta, T.A. and **Hill, R.A.** (2012). Muscle and Adipose Tissue: Potential Roles in Driving Variation in Feed Efficiency. (Chapter 12). In: **Hill, R.A.** (editor). *Feed Efficiency in the Beef Industry*. Wiley-Blackwell, Ames, Iowa.

- 2009 Choi, D., McIlroy, D., Nagler, J., Aston, E., Hrdlicka, P., Gustin, K., **Hill, R.**, Stenkamp, D. and Branen, J. (2009). One-dimensional silica structures and their applications to the biological sciences. (Chapter 3) In: Kumar, S.S.R. (ed.) *Nanostructured Oxides for Life Sciences*. Nanomaterials for the Life Sciences, Volume 2. Wiley-VCH, pp 83-108.
- 2004 **Hill, R.A.** (2004). The Role of the Leptin Axis in Modulating Energy Partitioning and Nutrient Utilization in Livestock Species. In: Garnsworthy, P.C. and Wiseman, J. (eds.) *Recent Advances in Animal Nutrition*. Nottingham University Press. Sutton Bonington. U.K. (pp 149-184).
- 2003 **Hill, R.A.**, Pell, J.M. and Flint, D.J. (2003) Immunomodulation of Growth. In: *Biology of Growth of Domestic Animals*. Chapter 18. Scanes, C.G. (ed.). Iowa State Press, Ames.
- Hill, R.A.**, Dunshea, F.R. and Dodson, M.V. (2003) Growth and Livestock. In: *Biology of Growth of Domestic Animals*. Chapter 19. Scanes, C.G. (ed.). Iowa State Press, Ames.

#### Other Refereed Publications:

---

##### Editorial:

- 2003 **Hill, R.A.** (2003). Leptin quantification: On the steep part of the learning curve. *Animal Science* 76: 1-2.

##### Department of Primary Industries Technical Report:

- 1997 **Hill, R.A.**, Holmes, M., and Smith, N. (1997). Growth promoting properties of antibodies with activity at the insulin-like growth factor-1 (IGF-1) axis. In Loxton, I. and Boadle, R. (eds.) *Brigalow Research Station Technical Report 1996* Department of Primary Industries Queensland.

##### Invited Presentations:

---

- 2011 **Hill, R.A.**, Welch, C.M., Kane, S.L., Ahola, J.K., Wulfhorst, J.D., Hall, J.B., Keenan, L., Murdoch, G.K., Crews, Jr., D.H., Szasz, J.I., Doumit, M.E., and Price, W.J. (2011). Idaho Experiment Station Report: Feed Efficiency Research and Outreach. W1010 Regional Project Meeting, Bozeman, Montana, May 31, 2011.

**Hill, R.A.**, Welch, C.M., Kane, S.L., Ahola, J.K., Wulfhorst, J.D., Hall, J.B., Keenan, L., Murdoch, G.K., Crews, Jr., D.H., Szasz, J.I., Doumit, M.E., and Price, W.J. (2011). Feed Efficiency Research and Outreach for the Beef Industry. National Research Initiative (USDA) Project Director's Meeting, April 18-19, Washington, D.C.

**Hill, R.A.** (2011). Nanotechnology: new tools to influence gene expression for the benefit of animal production. First International Meeting on Genes, Animal Agriculture and Aquaculture. Honolulu, HI. March 18-19, 2011.

**Hill, R.A.**, Welsh, T.H., Poulos, S.P., Gabler, N.K. and Connor, E.E. (2011). Symposium chair's introduction to Growth and Development Symposium: Intestinal development and growth *Journal of Animal Science*. 89(E suppl.). doi:11.3764/jas.2011-3764.

- 2010 Wulfhorst, J.D., Ahola, J.K., Kane, S.L., Keenan, L.D. and **Hill, R.A.** (2010). Factors affecting beef cattle producer perspectives on feed efficiency. W1010 Regional Project Meeting, Columbia, Missouri, July 1, 2010.

**Hill, R.A.**, Connor, E.E., Poulos, S.P., Welsh, T.H. and Gabler, N.K. (2010). Symposium chair's Curriculum Vitae



## Invited Presentations:

---

- introduction to Growth and Development Symposium: Fetal programming in animal agriculture. *Journal of Animal Science*. 88(E suppl.). doi:10.2527/jas.2010-2908.
- Hill, R.A.**, Kane, S.L., Ahola, J.K., Wulfhorst, J.D., Hough, R.L., Bolze Jr., R.P. and Keenan, L. (2010). Feed Efficiency Research and Outreach for the Beef Industry. National Research Initiative (USDA) Project Director's Meeting, July 15-16, Denver, CO.
- 2009 **Hill, R.A.** and Aizen, M. (2009), Symposium chair's introduction to The molecular basis for feed efficiency. *Journal of Animal Science*. 87(E suppl.):E39-E40.
- Hill, R.A.**, Kane, S.L., Ahola, J.K., Wulfhorst, J.D., Hough, R.L., Bolze Jr., R.P. and Keenan, L. (2009). Feed Efficiency Research and Outreach for the Beef Industry. National Research Initiative (USDA) Project Director's Meeting, July 15-16, Montreal, Canada.
- 2008 Ahola, J.K. and **Hill, R.A.** (2008). Defining and Measuring Feed Efficiency. Proc., Pacific Northwest Animal Nutrition Conference, October 7-9, 2008, Tacoma, Washington. pp. 157-162.
- Hill, R.A.**, Kane, S.L., Ahola, J.K., Wulfhorst, J.D., Hough, R.L., Bolze Jr., R.P. and Keenan, L. (2008). Feed Efficiency Research and Outreach for the Beef Industry. National Research Initiative (USDA) Project Director's Meeting, July 6-7, Indianapolis, IN.
- 2007 **Hill, R.A.** and Ahola, J.K. (2007), Implementation of Residual Feed Intake in the United States Beef Industry. Oregon Cattlemen's Association Annual Meeting, Redmond OR.
- 2005 **Hill, R.A.**, Baker, S.D., Klein, T.A., Szasz, J.I., Ahola, J.K., Hristov, A.N., Price, W., Huhtanen, P. and Sariola, J. (2005). Net Feed Efficiency: Possibilities for the Future. Pacific Northwest Animal Nutrition Conference. pp 199-210.
- Hill, R.A.** (2005). Fat Mice, Muscle Men and the Supersize Culture. Human Nutrition, Food and Animal Sciences, University of Hawaii at Manoa. June 30.
- Hill, R.A.** (2005). Leptin-Insulin Axis Cross-talk in a Bovine Myogenic Cell Model, Charles Sturt University, Wagga Wagga, Australia, June 28, 2005.
- 2004 **Hill, R.A.** (2004). Leptin Axis: Regulation of Energy Substrate Partitioning in Ruminants. Department of Animal Sciences, Purdue University. November 16.
- Hill, R.A.** (2004). The Role of the Leptin Axis in Modulating Energy Partitioning and Nutrient Utilization in Livestock Species. The 38th Nottingham Feed Conference. University of Nottingham. Sutton Bonington. U.K. September 14-16.

## Conference Articles:

---

- 2012 80. Wang, G., Song, Y., Norton, A.S. and **Hill, R.A.** (2012). KDEL Peptide Gold Nanostructures: A Promising Platform for Drug Delivery. *Experimental Biology*, San Diego April 25.
79. Welch, C.M., Ahola, J.K., Hall, J.B., Murdoch, G.K., Crews Jr., D.H., Szasz, J.I., Davis, L.C., Doumit, M.E., Price, W.J., Keenan, L.D. and **Hill, R.A.** (2012). Performance, residual feed intake, and carcass quality of progeny from Red Angus sires divergent for maintenance energy EPD. *Journal of Animal Science* 89 (E Suppl. submitted).
78. Acharya, S. Peters, A.M., Norton, A., Murdoch, G.K. and **Hill, R.A.** (2012). Dexamethasone induces generation of reactive oxygen species and alters myogenic differentiation marker expression in differentiating C2C12 myoblasts. *Experimental Biology*. (submitted).
77. Acharya, S. Peters, A.M., Norton, A., Murdoch, G.K. and **Hill, R.A.** (2012). Changes in endogenous reactive oxygen species are accompanied by changes in myogenic differentiation



## Conference Articles:

---

- marker expression in differentiating C2C12 myoblasts. *Advances in Skeletal Muscle Biology in Health and Disease*, University of Florida, Feb 22-24, 2012, Gainesville FL.
- 2011 76. Wang, G., Song, Y., Norton, A. and **Hill, R.A.** (2011). Characterization of Gold-Peptide Nanoconjugates and Their Intracellular Localization. *American Society for Nanomedicine*. Bethesda, Maryland.
75. Welch, C.M., Murdoch, G.K., Schneider, C.S., Chapalamadugu, K., Thornton, K.J., McGee, M., Ahola, J.K., Hall, J.B. and **Hill, R.A.** (2011). Muscle Gene Expression Suggests Pathways of Nutrient Partitioning in low and high Residual Feed Intake Red Angus-sired Steers and Heifers. *Pacific Northwest Animal Nutrition Conference*. Portland, Oregon.
74. McGee, M., Welch, C.M., Hall, J.B., Small, W. and **Hill, R.A.** (2011). Evaluation of Japanese Black (Wagyu) Bull Performance and Residual Feed Intake. *Pacific Northwest Animal Nutrition Conference*. Portland, Oregon.
73. Soderquist, G.C., Welch, C.M., Murdoch, G.K., Ahola, J.K., Hall, J.B., Schneider, C. and **Hill, R.A.** (2011). Overview of IL-15/IL-15 $\alpha$  Receptor and Their Role in Muscle Growth Related to Residual Feed Intake. *Innovation Showcase*. University of Idaho, April, 2011. (prize awarded).
72. Hopkins, X., Fickenwirth, K., Kringel, R., Nwoke, D., Islam, M., Choi, D., Zhang, Z., Jabal, J.M.F., Aston, D.E., Hass, J., McIlroy, D., Julien, D.C., Wang, G., Acharya, S. and **Hill, R.A.** (2011). Magnetically Mediated Destruction of Tumors by Hyperthermia Using Engineered Nanowires. *College of Engineering Design Expo*. University of Idaho. April, 2011. (winner of poster excellence award).
71. Davis, L.C., Owens, J.L., Murdoch, G.K., **Hill, R.A.** and Doumit, M.E. (2011). Specific Long-Chain Fatty Acids Preferentially Induce Differentiation of Bovine Intramuscular or Subcutaneous Preadipocytes. *Reciprocal Meat Conference*, New Orleans, June.
70. Welch, C.M., Murdoch, G.K., Schneider, C.S., Chapalamadugu, K., Thornton, K.J., Ahola, J.K., Hall, J.B. and **Hill, R.A.** (2011). Gene expression of Red Angus sired steers and heifers evaluated for residual feed intake *Journal of Animal Science* 89 (E Suppl. 2): 718.
69. McGee, M., Welch, C.M., Hall, J.B., Small, W. and **Hill, R.A.** (2011). Interactions of Residual Feed Intake and other Performance Parameters of Japanese Black (Wagyu) Bulls. *Journal of Animal Science* 89 (E Suppl. 2): 70.
- 2010 68. Thornton, K.J., Davis, L., Welch, C., Doumit, M., **Hill, R.A.** and Murdoch, G.K. (2010). Muscle Fiber Type is Altered by Selection of Sire for Maintenance Energy Proc., *Pacific Northwest Animal Nutrition Conference*, October 7-9, 2010, Vancouver, British Columbia.
67. Schneider, C.S., Hill, M, Welch, C., Hill; L.M., **Hill, R.A.** and Murdoch, G.K. (2010) Outcomes of Cattle *Biceps femoris* Muscle Surgical Biopsy. *Annual Meeting of the American Association of Bovine Veterinarians*, August, 2010.
66. Cheguru, P., Doumit, M.E., Murdoch, G.K. and **Hill, R.A.** (2010). Effect of fatty acids on adipocyte differentiation specific gene expression in 3T3-L1 cells. *Journal of Animal Science* 88 (E Suppl. 2).
65. Cheguru, P., Østergaard, M., Papasani, M.R., Sai, V.V.R., Wengel, J., Hrdlicka, P.J. and **Hill, R.A.** (2010). Novel Nanoprobes to Detect mRNA *in situ* directed against Mouse Pyruvate Dehydrogenase. *Nano-Science and Technology Innovations*. Anaheim, CA.
64. Papasani, M.R., Pokharel, D., Giri, A., Sai, V.V.R., Hrdlicka, P.J. and **Hill, R.A.** (2010). Transformation of Gold Nanoparticles into effective Gene Silencing Vectors by Oligoethylene Glycol Passivation. *Nano-Science and Technology Innovations*. Anaheim, CA.

## Conference Articles:

---

63. Wang, G., Papasani, M.R., Hrdlicka, P.J. and **Hill, R.A.** (2010). Role of Serum Proteins in the Cellular Uptake of Gold-Peptide Nanoconjugates. *Nano-Science and Technology Innovations*. Anaheim, CA.
62. Julien, D.C., Giri, A., Papasani, M.R., Murdoch, G.K., Hrdlicka, P.J. and **Hill, R.A.** (2010). Anti-K-Ras siRNA to Treat Pancreatic Cancer. *Nano-Science and Technology Innovations*. Anaheim, CA.
- 2009 61. Frederickson, M., Vemulakonda, S., Wang, G., Papasani, M.R., **Hill, R.A.** and Hrdlicka, P.J. "Oligonucleotide-Peptide Conjugated Gold Nanoparticles". INBRE conference, August, 2009, Pocatello, Idaho. (winner of poster award).
60. Hill, M., Chapalamadugu, K., Schneider, C., **Hill, R.A.**, Gaylord, G., Ahola, J.K., Hunt, C.W., Szasz, J. and Murdoch, G.K. (2009). Effect of time of ractopamine feeding on growth, carcass characteristics, and muscle biology of steers. *Journal of Animal Science* 87 (E Suppl. 2) 402.
59. Welch, C.M., Ahola, J.K., Hall, J.B., Szasz, J.I., Keenan, L. and **Hill, R.A.** (2009). Physiological drivers of variation in feed efficiency in red angus-sired calves. *Journal of Animal Science*. 87 (E Suppl. 2) 322.
58. Julien, D.C., Richardson, C.C., Beaux II, M.F., McIlroy, D.N. and **Hill, R.A.** (2009) *In vitro* proliferating cell models to study cytotoxicity of silica nanowires. *Nano-Science and Technology Innovations*. Houston, TX.
57. Amberg, J.J., Murdoch, G.K., Robison, B.D., Powell, M.S., Rodnick, K.J., **Hill, R.A.** and Hardy, R.W. (2009). Dietary Carbohydrate Level Affects Expression of Hepatic Glucose Transporters in Rainbow Trout (*Oncorhynchus mykiss*): Is Rainbow Trout Glut-2 different from Mammalian Glut-2? World Aquaculture Society Meeting.
- 2008 56. Julien, D.C., Richardson, C.C., Beaux II, M.F., McIlroy, D.N. and **Hill, R.A.** (2008). *In vitro* proliferating cell models to study cytotoxicity of silica nanowires. University of Idaho Science Competition, October, 2008, Moscow.
55. Cheguru, P., Oestergaard, M., Papasani, M.R., Wengel, J., Hrdlicka, P.J. and **Hill, R.A.** (2008). Novel Molecular Beacons with 2'-N-(Pyren-1-yl)Carbonyl-2'-Amino-LNA as Fluorescent Probes for the Detection of mRNA in 3T3-L1 cells. University of Idaho Science Competition, October, 2008, Moscow.
54. Powell, M., Wacyk, J., Plant, K., Stone, D., Rodnick, K., **Hill, R.** and Hardy, R. (2008). Expression of glycolytic and gluconeogenic enzymes show intraspecific variation among selected and non-selected strains of rainbow trout fed high levels of dietary carbohydrate. The International Congress on the Biology of Fish, Portland.
53. Papasani, M.R., Behnke, S. and **Hill, R.A.** (2008). Zebrafish PDX1 regulates promoter activity of a second insulin gene (*insb*). The Endocrine Society's 90th Annual Meeting, San Francisco.
52. Lewis, S.S., Robison, B.D., Powell, M.S., Rodnick, K.J., Hardy, R.W., Murdoch, G. K. and **Hill, R.A.** (2008) Chronic Dietary Carbohydrate Composition Affects Gene Expression of Some Key Regulators of Metabolism and Growth: A Study Using the Zebrafish Model. The Endocrine Society's 90th Annual Meeting, San Francisco.
51. Wacyk, J., Powell, M., Rodnick, K., Murdoch, G., Robison, B., **Hill, R.** and Hardy, R. (2008). Dietary carbohydrate level affects expression of genes regulating the production of reductive power in rainbow trout *Oncorhynchus mykiss*, liver. World Aquaculture Society Meeting, Busan, Korea.
50. Powell, M.S., Robison, B.D., Drew, R.E., Stone, D.A., Murdoch, G.K., Rodnick, K.J., **Hill, R.A.** and Hardy, R.W. (2008). Hepatic Gene Expression and Growth among Rainbow Trout

## Conference Articles:

---

- Oncorhynchus mykiss* in Response to Carbohydrate Manipulation of the Diet. World Aquaculture Society Meeting, Busan, Korea.
49. Amberg, J.J., Murdoch, G.K., Robison, B.D., Powell, M.S., Rodnick, K.J., **Hill, R.A.** and Hardy, R.W. (2008). Dietary Carbohydrate Level Affects Expression of the Intestinal Nutrient Transporters and Amino Acid Catabolism in Rainbow Trout (*Oncorhynchus mykiss*). Aquaculture America, Colorado Springs.
- 2007 48. Robison, B.D., Drew, R.E., Powell, M. Stone, D., Murdoch, G., Settles, M., Churchill, E., Rodnick, K., **Hill, R.A.** and Hardy, R.W. (2007). Sex-specific effects of chronic dietary carbohydrate manipulation on hepatic gene expression in the zebrafish (*Danio rerio*). Center for Reproductive Biology, Annual Meeting, Moscow, ID, May 2007.
47. Campbell, L., Ahola, J.K., Szasz, J.I., Skow, T.A., Hunt, C.W., Glaze, J.B., Jr. and **Hill, R.A.** (2007). Relationship between residual feed intake and meat quality in steer progeny of divergent intramuscular fat EPD angus bulls. Proc. Western Section Meeting of the American Society of Animal Science, Moscow ID., June, 2007.
46. Papasani, M.R., Halterman, K. and **Hill, R.A.** (2007). Promoter characterization of a second insulin gene in zebrafish. The Endocrine Society's 89th Annual Meeting, Toronto.
45. Lewis, S.S., Robison, B.D. and **Hill, R.A.** (2007). Characterization and Expression of Ribosomal Protein S6 Gene During Early Development of the Zebrafish *Danio rerio*. The Endocrine Society's 89th Annual Meeting, Toronto.
44. Papasani, M.R., Halterman, K. and **Hill, R.A.** (2007). Defining the promoter region of a second insulin gene in zebrafish. Society of Integrative and Comparative Biology Meeting, Phoenix AZ.
43. Stone, D.A.J., **Hill, R.A.** and Hardy, R.W. (2007). Strain differences in carbohydrate utilization by freshwater rainbow trout *Oncorhynchus mykiss*: Investigation of new molecular tools for genetic selection. World Aquaculture Society Meeting, San Antonio TX.
42. Amberg, J.J., Rønnestad, I., Rust, M.B., **Hill, R.A.** and Hardy, R.W. (2007). Prey type and rearing density affects expression of the intestinal oligopeptide transporter, pept1, in larval cod *Gadus morhua*. World Aquaculture Society Meeting, San Antonio TX.
- 2006 41. Choi, J.M., Papasani, M.R. and **Hill, R.A.** (2006). Effect of linoleic and oleic acids on lipid accumulation and adipogenesis in 3T3-L1 cells. The Endocrine Society's 88th Annual Meeting, Boston, MA.
40. Papasani M.R., Robison, B.D., Hardy, R.W. and **Hill, R.A.** (2006). Temporal and spatial expression of two zebrafish insulin genes during early development. The Endocrine Society's 88th Annual Meeting, Boston, MA.
39. Amberg, J.J., Papasani, M.R., Cook, M.A., Hardy, R.W., Rust, M.B., Anderson, C.L. and **Hill, R.A.** (2006). An intestinal peptide transporter, pept1-like, identified in altricial larval fishes: beginning to understand the importance of intestinal peptide uptake in larval fishes. World Aquaculture Society Meeting, Las Vegas, NE.
- 2005 38. Papasani, M.R., Kokta, T.A., Strat, A.L., Gertler, A. and **Hill, R.A.** (2005). Regulation of gene expression in Sol8 myogenic cells in response to leptin. The Endocrine Society's 87th Annual Meeting, San Diego, CA.
37. Kokta, T.A., Strat, A.L., Papasani, M.R., Szasz, J.I., Dodson, M.V., and **Hill, R.A.** (2005). Regulation of Lipid Accumulation in 3T3-L1 cells: effects of Oleic and Linoleic Acids and Insulin. The Endocrine Society's 87th Annual Meeting, San Diego, CA.

## Conference Articles:

---

- 2004 36. Szasz, J.I., Hunt, C.W., Baker, S.D., Klein, T., Kuber, P.S., Glaze, B., Falk, D., Richard, R., Miller, J., Battaglia, R.A., and **Hill, R.A.** (2004). Correlations among ultrasonic carcass estimates, growth performance measures, and residual feed intake in Angus steers. *Journal of Animal Science* 82 (supplement 1) 409.
35. Kokta, T.A., Strat, A.L., Dodson, M.V., Gertler, A. and **Hill, R.A.** (2004). Preliminary Characterization of Differentiating Bovine Adipofibroblasts. The Endocrine Society's 86th Annual Meeting, A163.
34. Strat, A.L., Dodson, M.V., Gertler, A., and **Hill, R.A.** (2004). Leptin-Insulin Interactions: Effects on Insulin Receptor Substrate-1 Modulation in Bovine Myogenic Cells. The Endocrine Society's 86th Annual Meeting, A473.
33. Strat, A.L., Rodgers, B.D., Dodson, M.V., Gertler, A., and **Hill, R.A.** (2004). Leptin Induced or Suppressed Genes in Myogenic Cells using High-Density Oligonucleotide Arrays. *Diabetes* 53: (supplement 2) 267.
- 2003 32. Strat, A.L., Holder, M.C., Wallace, A., Dodson, M.V., Gertler, A. and **Hill, R.A.** (2003). Models of Insulin Resistance: Towards Defining Pathological Changes in the Insulin Signaling Cascade. 4<sup>th</sup> Annual Rachmiel Levine Diabetes and Obesity Symposium. p.112. City of Hope California.
31. Cochrane, J., Strat, A.L., Dodson, M.V., Gertler, A. and **Hill, R.A.** (2003). The Impact of Serine Phosphorylation on the Insulin Pathway. *Proceedings of the American Chemical Society* 143:93.
30. Hunt, M.L., Kokta, T.A., O'Shea, T., **Hill, R.A.** and McFarlane, J.R. (2003) Leptin clearance rates during the early follicular phase are higher than during the luteal phase of the estrus cycle in ewes. *Proceedings of the Endocrine Society of Australia*. 46: 77.
29. **Hill, R.A.**, Dodson, M.V., Gertler, A., Hughes, N.J. and Henderson, D. (2003). Insulin signaling in bovine myogenic cells. *Journal of Animal Science* 81(supplement 1): 96.
- 2002 28. **Hill, R.A.**, Margetic, S. and Hughes, N. (2002). Leptin binding moieties in bovine serum. *Journal of Animal Science*. 80 (supplement 1): 195.
- 2000 27. Margetic, S., Pegg, G.G., Johnson, P., Gazzola, C. and **Hill, R.A.** (2000). Leptin receptor expression in rat peripheral tissues. 11th International Congress of Endocrinology, Sydney p227.
26. Margetic, S., Qui, X.Y., Pegg, G.G., D'Occhio, M.J., Gazzola, C. and **Hill, R.A.** (2000). Effect of mouse leptin on angiogenesis. 15<sup>th</sup> Australasian Biotechnology Conference, p79.
25. **Hill, R.A.**, Robertson, R.F., and Reid, D.J. (2000) Vaccination with an insulin-like growth factor binding protein-1 (IGFBP-1)-based vaccine improves growth in feed-restricted steers. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B: 240.
24. Smith, N.N., **Hill, R.A.**, Pegg, G.G., and Pell, J.M. (2000) Passive immunization with anti-IGF-1 antibodies increases feed intake during nutritional restriction. *Asian-Australasian Journal of Animal Sciences* 13 Supplement C: 154.
23. O'Neill, C.J., Reid, D.J., Kelly, M.J., and **Hill, R.A.** (2000) Variation in calving success in a Brahman herd in northern Australia. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B: 150.
22. Reich, M.M., Hendricksen, R.E., Rideout, J.A., Gazzola, C., and **Hill, R.A.** (2000) Alkane profiles in tropical forages. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B:

## Conference Articles:

---

- 152.
21. Hendricksen, R.E., Reich, M.M, Robertson, R.F., Rideout, J.A., Reid, D.J., Gazzola, C., and **Hill, R.A.** (2000) Using alkanes to predict voluntary intake, faecal output and digestibility of buffel grass hay fed to steers. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B: 148.
20. Gazzola, C., White, D.H., Hendricksen, R.E., **Hill, R.A.**, and Robertson, R.F. (2000) The performance of chromium and ytterbium intraruminal controlled release devices in beef cattle. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B: 147.
19. Gazzola, C., **Hill, R.A.**, Jeffery, M.R., O'Neill, C.J., Reid, D.J., White, D.H., and Burns, B.M. (2000) Scrotal circumference at puberty and its relationship to testes mass in three genotypes of beef cattle. *Asian-Australasian Journal of Animal Sciences* 13 Supplement B: 146.
- 1999 18. **Hill, R.A.** (1999) Putative membrane-associated high affinity binding site for insulin-like growth factor-1. *Proceedings Endocrine Society of Australia.* 42: 68.
17. Margetic, S., **Hill, R.A.**, Pegg, G.G., and Gazzola, C. (1999) Characterization of leptin receptors in bovine kidney using radioligand binding techniques. *Proceedings Endocrine Society of Australia.* 42: 77.
16. Smith, N.N. and **Hill, R.A.** (1999) Binding characterization of anti-insulin-like growth factor-1 (IGF-1) antibodies raised in cattle and sheep. *Proceedings Endocrine Society of Australia.* 42: 73.
- 1998 15. Hill, R.A., Gazzola, C., Herd, R.M., and Oddy, V.H. (1998) An insulin-like growth factor-1 based vaccine changes body composition in Angus steers. *Proc. Nutr. Soc. Aust.* 22: 176.
14. Gazzola, C., **Hill, R.A.**, Herd, R.M. and Oddy, V.H. (1998) Effect of immunization against leptin on growth rate and fat deposition in cattle. *Proc. Nutr. Soc. Aust.* 22: 94.
13. **Hill, R.A.**, Smith, N.N., and Holmes, M.A. (1998) An Insulin-like Growth Factor-1 based vaccine improves growth rate in steers. *Anim. Prod Aust.* 22: 321.
12. O'Neill, C.J., Weldon, G.J., **Hill, R.A.**, and Thomas, J. (1998) Adaptaur Association of Australia: A breed association based on the performance recording of Adaptaur Cattle. *Anim. Prod Aust.* 22: 229.
11. Margetic, S., **Hill, R.A.**, Pegg, G.G., and Gazzola, C. (1998) Characterization of leptin binding proteins in bovine serum. *Proceedings Endocrine Society of Australia.* 41: 75.
10. Baker, M., **Hill, R.A.** and Pegg, G.G. (1998) Analytical detection of cylindrospermopsin: Development of immunoassay procedures as detection methods. National Research Center of Environmental Toxicology. Brisbane, Australia.
- 1997 9. **Hill, R.A.**, Margetic, S., Pegg, G.G., and Gazzola, C. (1997) Leptin pharmacokinetics and binding in plasma of female rats. *Proceedings Endocrine Society of Australia.* 40:94
8. Margetic, S., **Hill, R.A.**, Pegg, G.G., and Gazzola, C. (1997) Dietary restriction does not affect serum leptin concentration or tissue distribution of leptin in female rats. *Proceedings Endocrine Society of Australia.* 40:93.
- 1996 7. **Hill, R.A.** and Sillence, M.N. (1996) Humoral immune response against a potential auto-antigen: the  $\beta$ 2-adrenoceptor. First FIMSA Conference, Adelaide.
6. Smith, N.N., Holmes, M.A., and **Hill, R.A.** (1996) Characterization of anti-Insulin-Like Growth Factor-1 (IGF-1) antibodies raised in cattle and sheep. First FIMSA Conference, Adelaide.
5. Pell, J.M., Flick-Smith, H.C., Stewart, C.E.H. and **Hill, R.A.** (1996) Localization of a major



## Conference Articles:

---

- binding site on IGF-1 for an IGF-1 enhancing antibody. 10<sup>th</sup> International Congress of Endocrinology, San Francisco, CA (Abstract P1-547).
4. Pell, J.M., **Hill, R.A.**, Dye, S., and Flick-Smith, H.C. (1996) Further characterization of an IGF-1 enhancing antibody. *Journal of Endocrinology* 148(suppl.): p96.
  3. Pell, J.M., Flick-Smith, H., Stewart, C.E.H., and **Hill, R.A.** (1996) Peptide mimics for a major binding site on IGF-1 for an IGF-1 enhancing antibody. *Journal of Endocrinology* 151(suppl.):p32.
- 1995
2. **Hill, R.A.**, Dye, S., Sheldrick, E.L., Flick-Smith, H.C. and Pell, J.M. (1995) Regulation of plasma clearance and tissue distribution of Insulin-Like Growth Factor-1 (IGF-1) by an IGF-1 enhancing antibody. *Journal of Endocrinology* 144(suppl.):p63.
  1. Pell, J.M. and **Hill, R.A.** (1995) IGF-1 enhancing antibody: actions on IGF-1 clearance and IGF-1-induced hypoglycaemia and interaction with the analogue LR-GF-1. 4<sup>th</sup> International Congress on IGFs. Miami, Florida.

## NCBI-GenBank Submissions:

---

- 2011 4. Chapalamadugu, K.C., Murdoch, B.M., Robison, B.D., **Hill, R.A.** and Murdoch, G.K. (2011). *Oncorhynchus mykiss* paired box 7 alpha gene (pax7 alpha) mRNA, splice variant 1. Sequences 1 through 11 Accession Nos. JQ303311, JQ303312, JQ303313, ....., JQ303320 and JQ303321. Submitted December 18, 2011.
- 2009 3. Papasani, M.R., Behnke, S.R., Rodgers, B.D. and **Hill, R.A.** (2009). Characterization of the second insulin gene promoter in zebrafish: implications for evolutionary dynamics of duplicated genes. Accession No. GU014700, submitted September 28, 2009.
- 2007 2. Amberg, J.J., Anderson, C.L., **Hill, R.A.**, Rust, M.B. and Hardy, R.W. (2007). Identification of PepT1 in China rockfish, *Sebastes nebulosus* Accession No. EU160494, submitted September 17, 2007.
- 2005 1. Papasani, M.R., Robison, B.D., Hardy, R.W. and **Hill, R.A.** (2005) Expression of zebrafish insulin-2, 498 bp mRNA linear. Accession No. DQ156497, submitted August 4, 2005.

## Provisional Patents:

---

- 2008 **Hill, R.A.** Use of endogenous cellular internalization signaling peptides to carry nanostructures and/or bioactive molecules into cells. 08-032 – US Patent Application No. 61113118. November 12, 2008.
- 1995 **Hill, R.A.** and Sillence, M.N. 1995 Australian Patent Application No. PM9972.
- 1994 **Hill, R.A.** and Sillence, M.N. 1994 Australian Patent Application No. PM7084.

Note: The right to publish all work associated with 94-95 patent applications was delayed. Publication of this work began in 1997. This includes all of the work of my Ph.D. Thesis.

## Special Presentations Leadership:

---

- 2010 **Hill, R.A.** and Branen, L.: Symposium Organizing Committee (2010). American Association for the Advancement of Science, National Meeting. Symposium: Healthy and Plentiful Animal-Based Foods: Science Offers New Possibilities. February 18-22. San Diego.
- 2009 **Hill, R.A.**, Tinkle, S. and Maynard, A.D.: Symposium Organizing Committee (2009). American Association for the Advancement of Science, National Meeting. Symposium: From Donuts to Drugs: Nano-Bio-technology Evolution or Revolution? February 13-16. Chicago.

## Outreach Presentations and Papers (Invited):

---

- 2012 **Hill, R.A.**, Wulfhorst, J.D., Kane, S, Welch, C.M. and Ahola, J.K. (2012). Controlling the cost of beef production through improving feed efficiency. National Institute for Animal Agriculture National Meeting. March 27, Denver CO.
- Hill, R.A.**, Wulfhorst, J.D., Kane, S, Welch, C.M, Hall, J.B. and Ahola, J.K. (2012). Improving Cattle Feed Efficiency. Bonner-Boundary Cattle Assoc. Beef School, Feb 4, Ponderay, ID
- 2010 Welch, C.M., Wulfhorst, J.D. Kane, S.L., Ahola, J.K., Hall, J.B. and **Hill, R.A.** (2010). Residual Feed Intake: Improving Feed Efficiency. Nancy M Cummings Research, Education and Extension Center, Salmon ID.
- 2009 Ahola, J.K. and **Hill, R.A.** (2009). Selecting for Efficiency of Feed Utilization: Now and in the Future. Western Beef Resources Committee – Cattle Producer’s Library Fact Sheet. CL1025.
- Welch, C.M., Ahola, J.K., Szasz, J.I., Hall, J.B., Keenan, L.D. and **Hill, R.A.** (2009). Evaluation of Feed Efficiency. Nancy M Cummings Research, Education and Extension Center, Salmon ID.
- Hill, R.A.**, Welch, C.M., Szasz, J.I., Hall, J.B., Keenan, L.D. and Ahola, J.K. (2009). Evaluating the feed efficiency and end-product quality relationship in the progeny of Red Angus sires divergent for Maintenance Energy EPD: A project overview. Beef Improvement Federation, National Meeting, April, Sacramento, CA.
- Ahola, J.K., Kane, S.L., Wulfhorst, J.D., Keenan, L.D. and **Hill, R.A.** (2009). A Nationwide Survey of Beef Producers about Feed Efficiency – Motivating Factors for the Implementation of Selection Practices. Beef Improvement Federation, National Meeting, April, Sacramento, CA,
- 2008 Ahola, J.K. and **Hill, R.A.** (2008). Selection for Feed Efficiency in Beef Cattle: Risks, Benefits, & Opportunities. Nancy M Cummings Research, Education and Extension Center, Salmon ID.
- Ahola, J.K. and **Hill, R.A.** (2008). Selecting for Efficiency of Feed Utilization: Now and in the Future. Western Beef Resource Committee, Cattle Producer’s Library, Genetics Section CL1025.
- Hill, R.A.** and Ahola, J.K. (2008). Residual Feed Intake: Benefits, Risks and Opportunities for Red Angus. Annual Convention of the Red Angus Association of America. September, Cheyenne, WY.
- 2007 **Hill, R.A.** and Ahola, J.K. (2007). Implementation of RFI in the US Beef Industry. Oregon Cattleman’s Association Annual Meeting. November, Redmond, OR.
- Carstens, G., **Hill, R.**, Welsh, T., Davis, M., Pollak, J. and Bullock, D. (2007). National Beef Cattle Evaluation Consortium Position Paper on the Use of Insulin-like Growth Factor I (IGF-I) as an Indicator Trait in a Genetic Evaluation for Feed Efficiency. at the National Beef Cattle Evaluation Consortium website, <http://www.ansci.cornell.edu:80/nbcec/>
- 2006 Ahola, J.K. and **Hill, R.A.** (2006). An Update of Beef Cattle Efficiency in Idaho. Idaho Cattleman’s Association Annual Meeting. November, Sun Valley.
- 2003 **Hill, R.A.** (2003). Feed Efficiency in Beef Cattle – What’s in it for the Cattleman? North Idaho Cattleman’s Meeting. October, Coeur d’Alene



- 2005 **Hill, R.A.** Leadership Idaho Agriculture from a Participant's Viewpoint, Moscow, ID. April.
- 2004 **Hill, R.A.** et al. Leadership Idaho Agriculture, Boise, ID. Debate Adjudication Panel, February.

**GRANTS AND CONTRACTS AWARDED:**

**Grants and Contracts Awarded - Summary (pre-2002 are Aust\$):**

Type	\$ funded 1994-2001	\$ funded 2002-2011	\$ Funded Career Total
As PI	325,887	3,333,795	3,659,682
As Co-PI	436,224	3,066,887	3,503,111
Total	762,111	6,383,938	<b>7,162,793</b>

**GRANTS AND CONTRACTS AWARDED:**

- 2011 Quality Beef Production in Idaho. AgriBeef LLC. (Hill). 2011-2012. \$11,744.
- 2010 Quality Beef Production in Idaho. AgriBeef LLC. (Hill). 2010-2012. \$50,000.
- Improving the Safety and Shelf Life of Agricultural Commodities Idaho Federal Appropriation Proposal. (Aston, McIlroy (PIs), Maki, Branen, Branen, Hill (CoPIs) and multiple investigators). 2010-2012. \$562,169.
- 2009 Invader LNAs as Novel Gene Specific Therapeutics. National Institutes of Health R-01. (Hrdlicka, Hill and Papasani, all as PIs). 2009-2012. \$527,253.
- Improving the Safety and Shelf Life of Agricultural Commodities Idaho Federal Appropriation Proposal. (Aston, McIlroy (PIs), Maki, Branen, Branen, Hill (CoPIs) and multiple investigators). 2009-2010. \$562,169.
- Evaluating muscle glycogen storage capacity, meat color and color stability in cattle genetically selected for efficiency EPD's. Idaho Beef Council. (Murdoch, Hill, Doumit, Ahola, Schneider). 2009-2010. \$27,826.
- 2008 GrowSafe Individual Feed and Water Intake System. Equipment Grant. NSF EPSCoR. (Hill, Ahola, Murdoch & Bohach). 2008. \$166,300.
- Evaluating the effects of pre-harvest feeding duration and (or) inclusion of a feed additive on market dairy cow carcass characteristics, value, and end-product eating quality. National Cattlemen's Beef Association. (Ahola, Chahine, Hunt, Hill, Murdoch), 2008-2009, \$54,801.
- Effects of Fatty Acids on Differentiation of Bovine Preadipocytes from Intramuscular and Subcutaneous Fat Depots. Idaho Beef Council. (Doumit, Hill & Murdoch) 2008-2009, \$42,559.
- 2007 Feed Efficiency Research and Outreach for the Beef Industry. National Research Initiative – USDA Integrated Proposal (Hill, Hough, Bolze, Ahola, Wulfhorst, Szasz) 2008-2012, \$450,000.
- NER: Nanomaterials platforms for control of gene expression. National Science Foundation. (Hill, Shapiro, McIlroy, Papasani, Lewis & Norton). 2007-2010, \$100,000.

## GRANTS AND CONTRACTS AWARDED:

---

- evaluation: the benefits of early versus late stage Ractopamine supplementation. Idaho Beef Council. (Murdoch, Ahola, Hristov, Hill, Schneider) 2007-2008, \$38,418.
- 2006 Nanomaterials for Basic and Applied Cell Biology. University of Idaho, Special Initiative. (McIlroy, Bohach, Hill, Nagler & Shapiro), 2006-2011, \$1,600,000.
- Improving the Quality and Value of Market Dairy Cow Carcasses. Idaho Beef Council. (Ahola, Chahine, Hill, Szasz & Hunt), 2006-2007, \$24,566.
- Optimizing Meat Quality and Production Efficiency: Simultaneously targeting Quality and Reducing Cost of Production. Idaho Beef Council (project continuation). (Ahola, Hill, Szasz & Klein), 2006-2007. \$34,050.
- Optimizing Meat Quality and Production Efficiency: Simultaneously targeting Quality and Reducing Cost of Production. Idaho Beef Council (project extension). (Ahola, Hill, Glaze & Klein), 2006-2007. \$9,890.
- Performance of Atlantic Cod (*Gadus morhua*) Larvae Fed Varying Levels of Complex Proteins: Survival, Growth, Metabolism and Absorption Studies. Research Council of Norway, Bilateral research cooperation - project establishment support. (Ronnestad, Amberg, Rust, Hardy & Hill). 2006-2007, \$25,638.
- 2005 Regulation of Energy Partitioning for Life Processes in Teleosts. NSF EPSCoR (Hardy & Hill leads, Powell, Rodnick & Robison), 2005-2008, \$1,704,269.
- Strategies to Minimize Carbohydrate Intolerance, Improve Protein-Sparing Effects and Growth Efficiency in Rainbow Trout. USDA Special Grant (Aquaculture Idaho-Washington) (Hill & Stone), 2005-2007 \$35,000.
- Optimizing Meat Quality and Production Efficiency: Simultaneously targeting Quality and Reducing Cost of Production. Idaho Beef Council. (Ahola, Hill, Glaze & Klein), 2005-2006. \$30,000.
- Effect of sire expected progeny difference for percent intramuscular fat and dam parity on intramuscular fat deposition of offspring over time. Idaho Beef Council, (Hill, Hunt, Glaze & Klein-Skow), 2005-2007 \$22,082.
- 2004 Discovering Novel Genes Modulating Leptin-Insulin Interactions in muscle. BRIN Research Enhancement Grant (Hill) 2004. \$7,425.
- 2003 Li-Cor Odyssey Equipment Grant. NRI, USDA (Hill) 2003, \$24,999.
- Isolation and Preliminary Characterization of Muscle-Derived Cells from Trout. USDA Special Grant (Aquaculture Idaho-Washington), (Hill, Dodson, Rodgers), 2003-2004, \$43,000.
- Leptin: Its role in the development of Insulin Resistance. NIH BRIN Seed Grant (Hill), 2003-2004, \$25,000.
- 2002 Leptin-Insulin Interactions: Improving production efficiency in ruminants. NRI, USDA (Hill, Dodson, Gertler), 2002-2005, \$166,723.
- 2001 Feed efficiency in grazing and feedlot cattle, II, CRC for Cattle and Beef Quality (Hill, Hendricksen, Gazzola, Herd & Reid), 2001, \$16,330.
- 2000 Leptin: Physiological mechanisms which modulate its actions, Australian Research Council (Pegg, Hill & Gazzola), 2000 \$4,000.
- Development of an assay for bovine Insulin-like growth factor binding protein-3 (IGFBP-3), QBII-CQU/Industry collaborative grants and ARC Large Grant (Scott, Hill, Gazzola & Owens), 2000,

## GRANTS AND CONTRACTS AWARDED:

---

- \$15,000.
- Feed efficiency in grazing and feedlot cattle I, Queensland Beef Industry Institute (Hill, Hendricksen, Gazzola, Jeffery, Loxton, O'Neill, Rideout, Walsh), 2000, \$78,397.
- Manipulation of fat in beef cattle, Queensland Beef Industry Institute (Gazzola, Hill, White Jeffery, Reid, O'Neill), 2000 \$58,000.
- 1999 Enhancement of Insulin-Like Growth Factor-1 actions in cattle, Meat Quality CRC Growth and Nutrition Program (Hill & Gazzola), 1999 \$24,000.
- Leptin: Physiological mechanisms which modulate its actions, Australian Research Council (Pegg, Hill & Gazzola), 1999 \$19,480.
- Reduction of dry-season weight loss in cattle by the use of novel peptide vaccines, North Star Biologicals (Hill), 1999, \$54,200.
- Manipulation of fat in beef cattle, Queensland Beef Industry Institute (Gazzola, Hill, White Jeffery, Reid, O'Neill), 1999 \$94,000.
- 1998 Insulin-Like Growth Factor-1 Program: Low affinity interactions – the key to enhancing IGF-1-mediated growth, Australian Research Council (Hill, Gazzola & Scott), 1998, \$7,500.
- Enhancement of Insulin-Like Growth Factor-1 actions in cattle, Meat Quality CRC Growth and Nutrition Program (Hill & Gazzola), 1998 \$9,500.
- Biology of bovine leptin, CRC Growth and Nutrition Program (Gazzola, Hill, Herd & Tellam), 1998 \$9,500.
- Leptin: Physiological mechanisms which modulate its actions, Australian Research Council (Pegg, Hill & Gazzola), 1998 \$19,480.
- 1997 Enhancement of Insulin-Like Growth Factor-1 actions in cattle, Meat Quality CRC Growth and Nutrition Program (Hill & Gazzola), 1997 \$10,000.
- Growth promoting properties of antibodies with activity at the Insulin-Like Growth Factor-1 (IGF-1) axis, CQU, URG scheme (Holmes Hill & Scott), 1997 \$5,000.
- Biology of bovine leptin, CRC Growth and Nutrition Program (Gazzola, Hill, Herd & Tellam), 1997 \$15,000.
- Studies of the IGF Type-1 Receptor in high and low net efficiency selection line cattle, Meat Quality CRC Growth and Nutrition Program (Hill, Herd Gazzola & Holmes), 1997, \$4,000.
- 1996 Development of antibodies with activity at the  $\beta_3$ -adrenoceptor, Australian Research Council (Pegg, Hill & Sillence), 1996 \$15,000.
- Growth promoting properties of antibodies with activity at the Insulin-Like Growth Factor-1 (IGF-1) axis, CQU, URG scheme (Holmes Hill & Scott), 1996 \$7,000.
- Biology of bovine leptin, CRC Growth and Nutrition Program (Gazzola, Hill, Herd & Tellam), 1996 \$18,250.
- Novel vaccination approaches to improve the growth rate of cattle, Meat Research Corporation (Sillence, Hill & Hoey), 1996 \$129,478.
- 1995 Development of antibodies with activity at the  $\beta_3$ -adrenoceptor, Australian Research Council (Pegg, Hill & Sillence), 1995 \$16,000.

## GRANTS AND CONTRACTS AWARDED:

---

Novel vaccination approaches to improve the growth rate of cattle, Meat Research Corporation (Sillence, Hill & Hoey), 1995 \$111,996.

Enhancement of Endogenous Insulin-Like Growth Factor 1 Activity, Australian Research Council (Holmes & Hill), 1995 \$16,000.

1994 Use of a specific antibody to enhance the action of Insulin-Like Growth Factor 1 (IGF-1), Rees Jones Fellowship - Travel to UK (Hill), 1994 \$5,000.

## GRANTS AND AWARDS PENDING:

---

## TEACHING ACCOMPLISHMENTS

---

### Courses Taught:

---

2012 Issues in Animal Agriculture (AVS Capstone), AVS 450, Spring  
Growth Physiology Inquisition, AVS409/509, Fall

2011 Issues in Animal Agriculture (AVS Capstone), AVS 450, Fall  
Growth Physiology Inquisition, AVS409/509, Fall  
Successful Grant Writing for Physiologists, AVS504, Spring

2010 Nanomaterials in Biomolecular Engineering, CHEM504/404, Spring (Course Co-ordinator - Team taught)

2008 Nanomaterials in Biomolecular Engineering, CHEM504/404, Spring (Team taught)  
Growth Physiology Inquisition, AVS409/509, Fall

2007 Growth Physiology Inquisition, AVS409/509, Spring, Fall  
Nanomaterials in Biomolecular Engineering, CHEM504/404, Spring (Team taught)

2006 Molecular and Cellular Biology, AVS221-Biol212, Fall  
Growth Physiology Inquisition, AVS409/509, Spring

2005 Molecular and Cellular Biology, AVS221-Biol212, Fall  
Growth Physiology Inquisition, AVS409/509, Spring  
Advanced Laboratory Methods, AVS504, Spring

2004 Molecular and Cellular Biology, AVS221-Biol212, Fall  
Growth Physiology Inquisition, AVS409/509, Fall, Summer, Spring

2003 Molecular and Cellular Biology, AVS221-Biol212, Fall  
Growth Physiology Inquisition, AVS409/509, Fall, Spring

2002 Molecular and Cellular Biology, AVS221-Biol212, Fall

### Courses Developed:

---

Growth Physiology Inquisition, AVS409/509  
Advanced Laboratory Methods, AVS504  
Molecular and Cellular Biology, AVS221-Biol212  
Nanomaterials in Biomolecular Engineering, CHEM504/404 (Team member).

## GRADUATE STUDENTS ADVISED:

---

### Graduate Principal Supervisor:

*Ph.D. Theses Completed:*

Pallavi Cheguru. 2006-2011. Pathways to Adipogenesis and Probing of a Key Metabolic Regulator: PDHx University of Idaho. Present position – Post-Doctoral Fellow, University of Iowa.

Madhusudhan Papasani. 2005-2008. Novel Discoveries of Insulin Gene Mechanisms in the Teleost Model Zebrafish: A Species Expressing Two Insulin Genes, University of Idaho. Present Position – Post-Doctoral Fellow, University of Pennsylvania.

Nyree Smith. 1997-2005. Novel Strategies to increase the growth promoting actions of the insulin-like growth factors (IGFs), Central Queensland University.

Senka Margetic. 1997-2001. Leptin Pharmacology and Endocrinology, Central Queensland University,

*Ph.D. Theses Current:*

Shuhan Ji. 2010-... Thesis Title TBA, University of Idaho.

Suresh Acharya. 2010-... Thesis Title TBA, University of Idaho.

Marcus McGee. 2010- ... Thesis Title TBA, University of Idaho.

Cassie Welch. 2009-... Thesis Title TBA, University of Idaho.

Guankui Wang. 2008-... Thesis Title TBA, University of Idaho.

*M.S. Theses Completed:*

Daniel Julien. 2008-2010. Interaction of Nanomaterials in vitro using Cancer as a Model to Understand Dysregulation of Cell Physiology, University of Idaho. Presently, in training Medical School, University of Washington.

Theresa Kokta. 2002-2005. Molecular signaling between adipocytes and myogenic cells: modulation of the Leptin and Insulin axes. University of Idaho. Present appointment – Veterinarian, Washougal, WA.

*M.S. Theses Current:*

William Kayser. 2012- ....Thesis Title TBA. University of Idaho.

**Graduate Committees Ph.D.:**

Sujay Sau. 2008-2012. University of Idaho (Major Professor, Dr Hrdlicka, Chemistry).

Kalyan Chapamagdal. 2007-2011. University of Idaho (Major Professor, Dr Murdoch).

Gregory Scott Snyder. 2004-2011. University of Idaho (Major Professor, Dr Hardy).

Jurij Wacyk. 2005-2009. University of Idaho (Major Professor, Dr Hardy).

Jon Amberg. 2004 -2008. University of Idaho (Major Professor, Dr Hardy).

Tiffany Klein. 2003-20...University of Idaho, (Major Professor, Dr Hunt).

Josh Szasz. 2001-2005. University of Idaho (Major Professor, Dr Hunt).

**Graduate Committees M.S.:**

Chloe Stenkamp-Strahm. 2011-.... (Major Professor Dr Balemba, Biological Sciences).

Lauren Davis. 2008-2011 University of Idaho (Major Professor, Dr Doumit).

Bharat Baral. 2008-2010. University of Idaho (Major Professor, Dr Hrdlicka, Chemistry).

Madison Hill. 2007-2010. (Major Professor, Dr Murdoch).

Jamieson Allen. 2006-2008. (Major Professor, Dr Ahola).

Lawrence Campbell. 2005-2008. (Major Professor, Dr Ahola).

Mark Williams. 2006-2008. (Major Professor, Dr Shapiro, Chemistry).

Sarah Baker. 2003-2005. (Major Professor, Dr Kubler).

*Co-supervisor M.Sc. Thesis:*

Daniella Braga, Central Queensland University (Major Professor, Dr. D'Occhio), 1999-2001.

Melanie Baker, Central Queensland University (Major Professor, Dr. Pegg), 1997-1998

**Post-Doctoral Trainees:**

---

Dr M.R. Papasani, PhD., 2008-2010 (Present appointment: Research Associate, University of Pennsylvania, Philadelphia, PA).

Dr. S. Lewis, PhD., 2005-2008. (Present appointment: Consultant, Lacs Pharmaceuticals. Nerul, Navi Mumbai, India).

Dr. A.L. Strat, M.D., 2003-2004. (Present appointment: Research Associate, East Carolina University, Brody School of Medicine, Department of Pharmacology and Toxicology, Greenville, NC).