CURRICULUM VITAE

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PERSONAL HISTORY

CITIZENSHIP

U.S.A.

ACADEMIC DEGREES

B.A.	1961	Susquehanna University	(Biology and Psychology)
M.S.	1963	University of Illinois	(Zoology)
Ph.D.	1968	University of Pennsylvania	(Cell and Developmental Biology)

ACADEMIC APPOINTMENTS

University of Illinois, Urbana-Champaign

Assistant Professor Department of Zoology	1968-1973
Associate Professor Department of Genetics and Development	1973-1981
Director, Honors Biology Program	1974-1976
Professor Departments of Genetics and Development, and Anatomical Sciences	1981-1987
Acting Head Department of Anatomical Sciences	1984-1986
Professor College of Medicine	1984-1990
Professor Department of Cell and Structural Biology	1987-1990

Indiana University -Purdue University Indianapolis

Dean and Professor of Biology, School of Science	July 1,1989-July 31, 2004
Professor of Biology and Dean Emeritus	Aug 1, 2004-present
Director, Indiana University Center for Regenerative Biology and Medicine	October 1, 2005-present

SCHOLARLY ACTIVITIES AND ACCOMPLISHMENTS

RESEARCH AND TEACHING INTERESTS

Cell and Developmental Biology
Regenerative Biology and Medicine

- Mechanisms of Regeneration
- Cell Transplantation
- Bioartificial Tissues
- Stimulation of Regeneration *in vivo*

MEMBERSHIP IN PROFESSIONAL AND CIVIC ORGANIZATIONS

Council of Colleges of Arts and Sciences (1990-2004)

American Association for the Advancement of Science

American Association of Anatomists

Federation of American Societies for Experimental Biology

Society for Developmental Biology

Wound Healing Society

American Conference of Academic Deans (1990-2004)

Rotary Club of Indianapolis (1995-2004)

Literary Club of Indianapolis

HONORS AND AWARDS

NIH Fellow in Developmental Biology, 1965-1968
Associate in the Center for Advanced Study, University of Illinois, 1986-1990

Elected Fellow, American Association for Advancement of Science, 1973

Recipient, Singer Medallion For Regeneration Research, 1988

CONSULTANCIES

Research consultant to Eli Lilly and Company on muscle development, April 15, 1996 – April 14, 1997.

Research consultant to Professor Hiroyuki Ide, Tohoku University, Japan, for a project entitled "Retinoic Acid and Pattern Formation in Limb Regeneration", 1995-1997.

Research Advisor, Yoshizato MorphoMatrix Project, Japan Science and Technology Corporation (formerly Research Development Corporation of Japan), April 1, 1996 - September 30, 1997.

Cook Biotech, West Lafayette, IN, January 1999-present

PUBLICATIONS **(*Peer Reviewed)**

***Stocum, D.L. 1966** The effects of thiourea and cortisone acetate on duodenal length and diameter and on morphogenesis of duodenal villi in chick embryos. J. Morph. 118:183-196.

***Stocum, D.L. 1968a** The urodele limb regeneration blastema: A self-organizing system. I. Differentiation in vitro. Dev. Biol. 18:441-456.

***Stocum, D.L. 1968b** The urodele limb regeneration blastema: A self-organizing system. II. Morphogenesis and differentiation of autografted whole and fractional blastemas. Dev. Biol. 18:457-480.

***Morzlock, F.V. and D.L. Stocum 1971** Patterns of RNA synthesis in regenerating limbs of the adult newt, Triturus viridescens. Dev. Biol. 24:106-118.

***Morzlock, F.V. and D.L. Stocum 1972** Neural control of RNA synthesis in regenerating limbs of the adult newt, Triturus viridescens. Roux's Archiv Dev. Biol. 171:170-180.

***Montalvo, F., H.E. Conrad, and D.L. Stocum 1972** Relative rates of protein synthesis and reaggregation in embryonic chick liver cells cultured in defined and supplemented media. Exp. Cell Res. 74:509-513.

***Stocum, D.L. and G.E. Dearlove 1972** Epidermal-mesodermal interaction during morphogenesis of the limb regeneration blastema in larval salamanders. J. exp. Zool. 181:49-62.

***Dearlove, G.E. and D.L. Stocum 1974** Denervation-induced changes in soluble protein content during forelimb regeneration in the adult newt, Notophthalmus viridescens. J exp. Zool. 190:317-328.

***Stocum, D.L. 1975a** Outgrowth and pattern formation during limb ontogeny and regeneration. Differentiation 3:167-182.

***Stocum, D.L. 1975b** Regulation after proximal or distal transposition of limb regeneration blastemas and determination of the proximal boundary of the regenerate. Dev. Biol. 45:112-136.
Stocum, D.L. 1977 Tissue interactions in limb regeneration. In: Vertebrate Limb and Somite Morphogenesis. D.A. Ede, J.R. Hinchliffe, and M. Balls, eds. Cambridge University Press, Cambridge, pp. 347-372.

***Stocum, D.L and D.A. Melton 1977** Self-organizational capacity of distally transplanted limb regeneration blastemas in larval salamanders. J. exp. Zool. 201:451-462.

***Stocum, D.L. 1978a** Regeneration of symmetrical hindlimbs in larval salamanders. Science 200:790-793.

Stocum, D.L. 1978b Organization of the morphogenetic field in regenerating amphibian limbs. Am. Zool. 18:883-896.

***Stocum, D.L. 1979** Stages of forelimb regeneration in Ambystoma maculatum. J. exp. Zool. 209:395-416.

***Stocum, D.L., R.M. Davis, M. Leger, and H.E. Conrad 1979** Development of the tibiotarsus in the chick embryo: Biosynthetic activities of histologically distinct regions. J. Embryol. exp. Morph. 54:155-170.

***Stocum, D.L. 1980a** Patterns of mitotic index, cell density and growth in regenerating Ambystoma maculatum limbs. J. exp. Zool. 212:233-242.

***Stocum, D.L. 1980b** Autonomous development of reciprocally exchanged regeneration blastemas of normal forelimbs and symmetrical hindlimbs. J. exp. Zool. 212:361-371.

***Stocum, D.L. 1980c** Intercalary regeneration of symmetrical thighs in the axolotl, Ambystoma mexicanum. Dev. Biol. 79: 276-295.

***Pescitelli, M.J. and D.L.** Stocum 1980 The origin of skeletal structures during intercalary regeneration of larval Ambystoma limbs. Dev. Biol. 79:255-275.

***Pescitelli, M.J. and D.L. Stocum 1981** Non-segmental organization of positional information in regenerating Ambystoma limbs. Dev. Biol. 82:69-85.

***Stocum, D.L. 1981** Distal transformation in regenerating double anterior axolotl limbs. J. Embryol. exp. Morph. 65:3-18 (supplement).

***Stocum, D.L. 1982** Determination of axial polarity in the urodele limb regeneration blastema. J. Embryol. exp. Morph. 71:193-214.

***Stocum, D.L and J.F. Fallon 1982** Control of pattern formation in urodele limb ontogeny: A review and a hypothesis. J. Embryol. exp. Morph. 69:7-36.

Stocum, D.L. 1983a Distal transformation in regenerating urodele limbs. In: Limb Development and Regeneration. A. Caplan, J. Fallon, R. Kelley, P. Goetinck, and J. MacCabe, eds. Alan Liss Pub., New York, pp. 468-476.

Stocum, D.L. 1983b Morphogenesis of the amphibian limb regeneration blastema. In: Nerve, Organ, and Tissue Regeneration: Research Perspectives. F.J. Seil, ed. Academic Press, New York, pp. 377-407.

***Nardi, J.B. and D.L. Stocum 1983** Surface properties of regenerating limb cells; Evidence for gradation along the proximodistal axis. Differentiation 25:27-31.

Stocum, D.L and J.F. Fallon 1984 Urodele limb development. In: Pattern Formation: Primer in Developmental Biology. G. Malacinski and S.V. Bryant, eds. MacMillian Pub. Co., New York, pp. 507-520.

***Stocum, D.L. 1984** The urodele limb regeneration blastema: Determination and organization of the morphogenetic field. Differentiation 27:13-28.

Stocum, D.L. 1984 Animal Morphogenesis. Encyclopedia of Science and Technology, Macmillan Co. Technology, Macmillan Co.

***Thoms, S.D. and D.L. Stocum** 1984 Retinoic acid-induced pattern duplication in regenerating urodele limbs. Dev. Biol. 103:319-328.

***Stocum, D.L. and S.D. Thoms 1984** Retinoic acid-induced pattern completion in regenerating double anterior limbs of urodeles. J. exp. Zool. 232:207-215.

Stocum, D.L. 1985 The role of the skin in urodele limb regeneration. In: Control of Forelimb Regeneration. R. Sicard, ed. Oxford University Press, pp. 32-53.

***Niazi, I.A., M.J. Pescitelli, and D.L. Stocum 1985** Stage-dependent effects of retinoic acid on urodele limb regeneration. Roux's Archiv Dev. Biol. 194:355 363.

Stocum, D.L. 1986. Retinoids: Probes for understanding pattern regulation in regenerating amphibian limbs. In: The Developmental Implications of Intercellular Communication. R.M. Gorczynski, ed. Academic Press, New York, pp. 165-181.

***Stocum, D.L. 1986** Morphogenesis of the Embryonic Limb. Encyclopedia of Science and Technology, Macmillan Co.

***Kim, W. -S. and D.L. Stocum. 1986a** Retinoic acid modifies positional memory in the anteroposterior axis of regenerating axolotl limbs. Dev. Biol. 114:170-179.

***Kim, W. -S. and D.L. Stocum 1986b** Effects of retinoic acid on regenerating normal and double half limbs of axolotls: Histological studies. Roux's Archiv Dev. Biol. 195:243-251.

***Kim, W.-S and D.L. Stocum 1986c** Retinoid-induced pattern duplication in regenerating limbs: Effects of synthetic retinoids and different amputation levels. Roux's Archiv Dev. Biol. 195:243-251.

***Slobin, J.A., D.L. Stocum, and W.D. O'Brien, Jr. 1986** Amphibian limb regeneration curves generated by the scanning laser acoustic microscope. J. Histochem. Cytochem. 34:53-56.

***Stocum, D.L. and K. Crawford 1987** Use of retinoids to analyze the cellular basis of positional memory in regenerating axolotl limbs. Biochem. Cell Biol. 65:750761.

Stocum, D.L. 1988 Modification of positional memory in regenerating limbs by retinoic acid. In: Regeneration and Development. S. Inoue, T. Shirai, M. Egar, S. Aiyama, J. Geraudie, T. Nobunaga and N.L. Sato, eds. Okada Pub. Co., Maebashi.

***McCormick, A.M., H.E. Shubeita, and D. L. Stocum 1988** Cellular retinoic acid binding protein: Detection and quantitation in regenerating axolotl limbs. J. Exp. Zool. 245:270-276.

***Crawford, K. and D.L. Stocum 1988a** Retinoic acid coordinately proximalizes regenerate pattern and blastema differential affinity in axolotl limbs. Development 102:687-698.

***Crawford, K. and D.L. Stocum. 1988b** Retinoic acid proximalizes level-specific properties responsible for intercalary regeneration axolotl limbs. Development 104:703-712.

Stocum, D.L. 1989 The use of retinoids to explore the cellular and molecular basis of positional memory in regenerating amphibian limbs. In: Recent Trends in Regeneration Research. V. Kiortsis, S., Koussoulakis and H. Wallace, eds. Plenum Press, New York, pp. 295-312.

***Stocum, D.L. and V.I. Mitashov 1990** Pattern regulation in regenerating limbs. Ontogenez 27:5-31 (In Russian). English translation by Plenum Publishing Corp.

***Ludolph, D.C., J.A. Cameron and D. L. Stocum 1990** The effect of retinoic acid on positional memory in the dorsoventral axis of regenerating axolotl limbs. Dev. Biol. 140:41-52.

Stocum, D.L. and T.L. Karr 1990 (eds) The Cellular and Molecular Biology of Pattern Formation. Oxford University Press, New York.

Stocum, D.L. and M. Maden 1990 Regenerating limbs. Methods in Enzymology 190:189-201.

Stocum, D.L. 1991a Retinoic acid and pattern formation in regenerating limbs. Seminars in Dev. Biol. 2:199-210.

***Stocum, D.L. 1991b** Limb regeneration: a call to arms (and legs). Cell 67:5-8.

Stocum, D.L. 1992 Dynamics of the gastrulation movements and determination of the mesoderm in amphibian embryos. In: Morphogenesis: An Analysis of the Development of Biological Structures. E.F. Rossomando and S. Alexander, eds. Marcel Dekker, Inc., New York, pp. 319-386.

***Monkemeyer, J., D.C. Ludolph, J.A. Cameron and D.L. Stocum 1992** Retinoic acid-induced change in anteroposterior positional identity in regenerating axolotl limbs is dose-dependent. Dev. Dynamics 193:286-294.

Ludolph, D.C., J.A. Cameron, and D.L. Stocum 1993 Asymmetric effects of retinoic acid on pattern formation in the transverse axes of regenerating axolotl limbs: Test of a hypothesis. In: Limb Development and Regeneration, J.F. Fallon, P.F. Goetinck, R.O. Kelley, and D.L. Stocum, eds. Wiley-Liss, Inc., New York, pp. 739-747.

***Ludolph, D.C., J.A. Cameron, A.W. Neff, and D.L. Stocum 1993** Cloning and tissue specific expression of the axolotl cellular retinoic acid binding protein. Dev. Growth and Diff. 35: 341-347.

***Ludolph, D.C., J.A. Cameron, and D.L. Stocum 1993** Test of a model for the effects of retinoic acid on urodele limb regeneration. Dev. Dynamics 198: 77-85.

Stocum, D. L. 1995 Wound Repair, Regeneration and Artificial Tissues. Austin, TX; R. G. Landes Co.

***Chernoff, E.A.G. and D.L. Stocum 1996** Developmental aspects of spinal cord and limb regeneration in urodeles. Dev. Growth and Diff. 37: 133-147.

***Stocum, D.L. 1996** A conceptual framework for analyzing axial patterning in regenerating urodele limbs. Int. J. Dev. Biol. 40: (773-783).

***Stocum, D.L. 1996** Tissue restoration: approaches and prospects. Wound Repair and Regeneration 4: 3-15.

Stocum, D.L. 1997 New Tissues from Old. Science 276: 15 (Editorial).

***Stocum, D.L. and P. M. Rooney 1997** Responding to resource constraints: a departmentally based system of responsibility center management. Change 29 (#5): 50-57.

Stocum, D.L. 1998 Bridging the Gap: Restoration of Structure and Function in Humans. In: Cellular and Molecular Basis of Regeneration: From Invertebrates to Humans. P. Ferretti and J. Geraudie, eds., John Wiley and Sons, Ltd., pp.411-490.

Stocum, D.L. 1998 Regenerative biology and engineering: strategies for tissue restoration. Wound Repair and Reg. 6: 276-290.

***Stocum, D.L. 1998** New tissues for old. J. Minn. Acad. Sci. 63: 23-30.

Stocum, D.L. 1999 Regenerative biology: a millennial revolution. Sem. Cell & Dev Biol 10: 433-440.

Stocum, D.L. 1999 Limb regeneration: re-entering the cell cycle. Curr Biol 9: R644-R646.

***Stocum, D.L. 1999** Regeneration of Vertebrate Tissues: Model Systems. Encyclopedia of Life Sciences, MacMillan Reference Ltd.

Stocum, D.L. 2000 Transplantation and culture techniques for the analysis of urodele limb regeneration. In: Developmental Biology Protocols, Volume I, R.S. Tuan and C.W. Lo, eds, Humana Press Inc., Towota, NJ, pp. 67-74.

***Stocum, D.L. 2000** Regeneration of the amphibian limb. Encyclopedia of Life Sciences, MacMillan Reference Ltd.

***Stocum, D.L. 2000** Regenerative biology and medicine in the 21st century. Reg Med 1: 17-20. E-biomed, www.liebertpub.com/reg

Stocum, D.L. 2000 Frog limb deformities: an "eco-devo" riddle wrapped in multiple hypotheses surrounded by insufficient data. Teratology 62:147-150.

Stocum D. L. 2000 Urban universities: a model for the 21st century. Vital Speeches of the Day LXVI, #23: 715-718.

***Picciolo GL and Stocum DL 2001** ASTM lights the way for tissue engineered medical products standards. ASTM Standardization News 29 (#1):29-35

Stocum D.L. 2001 Regeneration of the spinal cord. The World and I F ebruary: 132-139.

***Stocum D. L. 2001** Regenerative biology and medicine: a new era in bioengineering. Cardiac and Vasc Reg 1:157-169.

Stocum D. L. 2001 The evolution of 21st Century public higher education: the urban university as prototype. Metropolitan Universities Journal 12:10-19.

Stocum DL 2001 Rx for tissue restoration: regenerative biology and medicine. Korean J Biol Sci 5: 91-99.

***Loeffler IK, Stocum DL, Fallon JF, and Meteyer CU 2001** Leaping lopsided: a review of the current hypotheses regarding etiologies of limb malformations in frogs. Anat Rec (New Anat) 265:228-245.

Stocum DL 2002 Stem cells in regenerative biology and medicine. Wound Rep Reg 94:29-42.

Stocum DL 2002 Regenerative biology and medicine. J Musculoskel Neuron Interact 2 (3):1-4.

Stocum DL 2002 Regenerative biology and medicine. J Musculoskel Neuron Interact 2 (4):383-384.

Stocum DL 2002 A tail of transdifferentiation. Science 298:1901-1902.

***Nye HLD, Cameron JA, Chernoff EG, Stocum DL 2003** Regeneration of the urodele limb: a review. Dev Dynam 226:280-294.

***Stocum DL 2003** The regenerative biology of amphibians: gateway to a regenerative medicine. J Regen Med 3:1-6.

***Nye HLD, Cameron JA, Chernoff EAG, Stocum DL 2003** Extending the table of stages of normal development of the axolotl: limb development. Dev Dynam 226:555-560.

***Chernoff EAG, Stocum DL, Nye HLD, Cameron JA 2003** Urodele spinal cord regeneration and related processes. Dev Dynam 226:295-307.

***King MW, Nguyen T, Calley J, Harty MW, Muzinich MC, Mescher AL, Chalfant C, N'Cho M, McLeaster K, McEntyre J, Stocum DL, Smith RC, Neff AW (2003)** Identification of genes expressed during *Xenopus laevis* limb regeneration by using subtractive hybridization. Dev Dynamics 226:398-409.

***Stocum DL, Nye HLD, Cameron JA, Chernoff EAG 2003** What we know about urodele (especially axolotl) early development: a review of gamete formation and fertilization. Axolotl Newsletter 30 (Summer): 4-11.

Stocum DL 2003 Stem cells in amphibian regeneration. In: Stem Cell Handbook. Sell S, ed. Humana Press, Towota, NJ, pp 89-100.

Stocum DL 2004 Amphibian regeneration and stem cells. In Regeneration: Beyond the Stem Cells. Heber-Katz E (ed). Springer Verlag, Heidelberg, pp 1-70.

***Stocum DL, Nye HLD, Cameron JA, Chernoff EAG 2004** What we know about urodele (expecially axolotl) early development: a review of cleavage, gastrulation, and organogenesis. Axolotl Newsletter 30:4-10.
Stocum DL 2004 Tissue Restoration Through Regenerative Biology and Medicine. Adv in Anat, Embryol and Cell Biol 176:1-104.

Stocum DL 2004 Regenerative Biology and Medicine: An Overview. Cell Sci 1:1-14.

Stocum DL 2005 Stem cells in CNS and cardiac regeneration. In: Advances in Biochemical Engineering/Biotechnology: Regenerative Medicine. Yannas IV (ed). Springer-Verlag, pp 135-159.

***Stocum DL 2005** Regeneration of Vertebrate Tissues: Model Systems. Encyclopedia of Life Sciences, MacMillan Reference Ltd (Revision of previous article)

***Stocum DL 2005** Regeneration of the amphibian limb. Encyclopedia of Life Sciences, MacMillan Reference Ltd, (Revision of previous article)

Stocum DL 2005 Morphogenesis. McGraw-Hill Encyclopedia of Science and Technology (Revision of previous article)

Stocum DL 2006 "Regenerative Biology and Medicine". San Diego, Academic Press/Elsevier, 465 pp.

Stocum DL 2007 Acceptable nAGging. Science 318:754-755.

Stocum DL 2008 Developmental mechanisms of regeneration and strategies of regenerative medicine. In: "Principles of Regenerative Medicine", Atala A, Lanza R, Thompson J, Nerem R, eds. Academic Press/Elsevier, San Diego and New York, pp 100-125.

***Palakal M, Sebastian T, Stocum DL 2008** Discovering implicit protein-protein interactions in the cell cycle using bioinformatics approaches. J Biomed Sci 15:317-331.

Stocum DL 2008 The Realms of Science: Past, Present, and Future. Indiana Insight, Spring 2008.

***Stocum DL, Zupanc GKH 2008** Stretching the limits: Stem cells in regeneration science. Dev Dynam 237: 3648-3671.

***Stocum DL 2009** Regeneration of Vertebrate Tissues: Model Systems. Encyclopedia of Life Sciences, MacMillan Reference Ltd (Revision of previous article)

***Stocum DL 2009** Regeneration of the amphibian limb. Encyclopedia of Life Sciences, MacMillan Reference Ltd (Revision of previous article)

***Stocum DL 2009** Regenerative Medicine. Encyclopedia Brittanica

***Rao N, Jhamb D, Milner DJ, Li B, Song F, Wang M, Voss SR, Palakal M, King MW, Saranjami B, Nye HLD, Cameron JA, Stocum DL 2009** Proteomic analysis of blastema formation in regenerating axolotl limbs. BMC Biology 7:83

Hiles M, Stocum DL 2010 Dermis and non-dermis biologic grafts. General Surgery News, September.

***Song F, Li B, Stocum DL 2010** Amphibians as research models for regenerative medicine. Organogenesis 6:141-150.

Stocum DL, Rao N 2010 Mechanisms of blastema formation in regenerating amphibian limbs. In: Principles of Regenerative Medicine, 2nd ed. Atala A, Lanza R, Thompson J, Nerem R, eds, 67-86.

***Feng L, Milner DJ, Xia C, Nye HLD, Redwood P, Cameron JA, Stocum DL, Fang N, Jasiuk I 2011** Long bone critical size defect repair by regeneration in adult *Xenopus laevis* hindlimbs. Tiss Eng Part A, 17:691-701.

***Santosh N, Windsor LJ, Mahmoudi BS, Li B, Zhang W, Chernoff EA, Rao N, Stocum DL, Song F 2011** Matrix metalloproteinase expression during blastema formation in regeneration-competent versus regeneration-deficient amphibian limbs. Dev Dynam 240:1127-1141.

***Jhamb D, Rao N, Milner DJ, Song F, Cameron JA, Stocum DL, Palakal MJ 2011** Network based transcription factor analysis of regenerating axolotl limbs. BMC Bioinformatics12:80.

***Stocum DL, Cameron JA 2011** Looking proximally and distally: 100 years of Limb regeneration and beyond. Dev Dynam 240:943-968.

***Stocum DL 2011** The role of peripheral nerves in urodele limb regeneration. Eur J Neurosci 34:908-916.

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Nelson MT, Keith JP, Li B, Stocum DL, Li J 2012 Electrospun composite polycaprolactone scaffolds for optimized tissue regeneration. J Nanoeng & Nanosystems, in press.

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ABSTRACTS AND MEETING PRESENTATIONS

Stocum, D.L. 1964 Effects of thiourea and cortisone acetate on morphogenesis of previllous ridges and villi in chick embryos. Anat. Rec. 148:340 (American Association of Anatomists, Denver, CO).

Stocum, D.L. 1967 In vitro culture of larval urodele limb regenerates. Am. Zool. 7:753. (American Society of Zoologists, New York, NY).

Dearlove, G.E. and D.L. Stocum 1974 Denervation-induced changes in soluble protein content of regenerating forelimbs of the adult newt, Notophthalmus viridescens. Am. Zool. 14:1262. (American Society of Zoologists, Phoenix, AZ).

Stocum, D.L. 1979 Intercalary regeneration of double anterior limbs. Second Biennial Forum on Regeneration, Ann Arbor, MI.

Stocum, D.L. 1980 Intercalary regeneration of double half-anterior thighs in the axolotl, Ambvstoma mexicanum. Anat. Rec. 196:181-182A. (American Association of Anatomists, Omaha, NE).

Stocum, D.L. 1980 Intercalary regeneration of symmetrical thighs induced by symmetrical wrist blastemas. Am. Zool. 20-804. (American Society of Zoologists, Seattle, WA).

Stocum, D.L. 1981 Determination of polarity in the urodele regeneration blastema. Am. Zool. 21:999. (American Society of Zoologists, Dallas, TX).

Thoms, S.D. and D.L. Stocum 1983 Effects of retinoids on regenerating urodele limbs. (Fourth Biennial Regeneration Forum, Urbana, IL).

Stocum, D.L., S.D. Thoms, and W.-S. Kim 1984 Effects of retinoids on positional information in regenerating limbs of the adult newt, Notophthalmus viridescens. Anat. Rec. 200:174A. (American Association of Anatomists, Seattle, WA).

Kim, W.-S. and D.L. Stocum 1984 Retinoids posteriorize positional value in the AP axis of regenerating axolotl limbs. As. Zool. 24:126A. (American Society of Zoologist, Denver, CO).

Klein, K.C. and D.L. Stocum 1984 Retinoic acid modifies level specific cell recognition and affinity in regenerating axolotl limbs. Am. Zool. 24:126A. (American Society of Zoologists, Denver, CO).

Pescitelli, M.J. and D.L. Stocum 1985 Dolichol has no effect on axolotl limb regeneration. (Fifth Regeneration Forum, Michigan State University, East Lansing, MI).

Kim, W.-S. and D.L. Stocum 1985 Effects of retinoic acid on AP axial pattern in regenerating axolotl limbs. (Fifth Regeneration Forum, East Lansing, MI).

Crawford, K. and D.L. Stocum 1985 Retinoic acid modifies level-specific positional memory in regenerating axolotl limbs. (Fifth Biennial Regeneration Forum, East Lansing, MI).

Stocum, D.L. and M.J. Pescitelli 1985 Effects of retinoic acid and dolichol on urodele limb regeneration. (International Society for Developmental Biology, Los Angeles, CA).

Kim, W.-S. and D.L. Stocum 1986 Regeneration of retinoid-treated normal and double half axolotl limbs: Histological studies. Anat. Rec. (American Association of Anatomists, Reno, NV).

Crawford, K. and D.L. Stocum 1986 Retinoic acid modifies level-specific cell interactions responsible for intercalary regeneration in axolotl limbs. (Midwest Regional Society for Developmental Biology, Bloomington, IN).

Chao, M. and D.L. Stocum 1986 Effects of retinoic acid on the DV axis of regenerating axolotl limbs. (Midwest Regional Society for Developmental Biology, Bloomington, IN).

Crawford K. and D.L. Stocum 1986 Retinoic acid modifies level specific cell interactions responsible for intercalary regeneration in axolotl limbs. Am. Zool. 26:60A. (American Society of Zoologists, Nashville, IN).

McCormick, A.M., H.E. Shubeita, and D.L. Stocum 1987 Detection and quantitation of retinoic acid binding protein in regenerating axolotl limbs. Anat. Rec. (American Association of Anatomists, Washington, DC).

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Ludolph, D.C., R. Gonzales, J.A., Cameron and D.L. Stocum 1991 Test of Posteriorization ad ventralization in retinoic acid treated half limbs of regenerating axolotls. (Midwest Regionals Society of Developmental Biology, West Lafayette, IN).

Uphues, M., J.A. Cameron and D.L. Stocum 1991 Dose-response of anteroposterior positional identity to retinoic acid in regenerating axolotl limbs. (Midwest Regional Society for Developmental Biology, West Lafayette, IN).

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Stocum DL and F Song 2007 An experimental approach to the analysis of proximodistal regeneration in regenerating amphibian limbs. Experimental Biology, Washington DC.

Nye H, Milner D, Feng L, Li B, Rao N, Redwood P, Miller P, Miller P, Ringwald K, Saulog A, Wilson S, Stocum DL, Wheeler M, Jasiuk I, Cameron JA. (2008) Bioreactor-Based Experiments in Regeneration Biology. 47th Midwest Regional Developmental Biology Meeting, University of Iowa, Iowa City, IA

Nye H, Milner D, Li B, Rao N, Miller P, Redwood P, Ringwald K, Stocum DL, Cameron JA (2008) Improving *Xenopus laevis* Hind Limb Regeneration with Sonic Hedgehog and Fibroblast Growth Factor 10. 47th Midwest Regional Developmental Biology Meeting, University of Iowa, Iowa City, IA

Li B, Rao N, Robling AG, Song F, Stocum DL (2008) Axolotl Limb Regeneration: Implications for Bone Regeneration Therapies. First Midwest Stem Cell Biology Conference, Rochester, MI.

Li B, Rao N, Robling A, Song F, Stocum DL (2008) Morphological Study of Retinoic Acid-Induced Malformation of Skeletal Tissues during Axolotl Limb Regeneration, Sun Valley Workshop on Skeletal Tissue Biology, ID

Rao N, Jhamb D, Milner DJ, Li B, Wang M, Palakal M, King MW, Saranjami B, Nye HLD, Cameron JAC, Stocum DL (2009) Proteomic analysis of blastema formation in regenerating axolotl limbs. Stem Cell Biology Conference, Cold Spring Harbor, NY

Nelson M, Keith J, Li B, Stocum D, Li J (2010) Electrospun Nanofibrous Composite Scaffolds for Improved Stem Cell Growth and Proliferation. Orthopaedic Research Society, New Orleans, LA

INVITED PROFESSIONAL PRESENTATIONS

Symposia and Workshops

British Society for Developmental Biology: Limb and Somite Development, Glasgow, Scotland, 1976.

American Society of Zoologists/Canadian Society of Zoologists: Neurotrophic and Morphogenetic Controls in Regeneration, Toronto, Canada, 1977.

American Association of Anatomists: Pattern Formation and Morphogenesis, Miami, Florida, 1979.

Second Biennial Forum on Regeneration: Ann Arbor, Michigan, 1979.

Symposium on Morphogenesis and Pattern Formation: Ann Arbor, Michigan, 1980.

British Society for Developmental Biology: Morphogenesis and Pattern Formation, Sussex, England, 1981.

Third International Conference on Limb Development and Regeneration: Storrs, Connecticut, 1982.

Veterans Administration Symposium: Regeneration Research: Harper's Ferry, Virginia, 1982.

NASA Workshop on Developmental Biology: Washington, DC, 1984.

NSF Workshop: Future Directions in Regeneration Research: Santa Cruz, California, 1985.

Mid-Atlantic Developmental Biology Symposium: Bethesda, Maryland, 1985 (Keynote Speaker).

Midwest Regional Developmental Biology Symposium: Cleveland, Ohio, 1985.

Canadian Federation of Biological Societies: The Developmental and Cell Biology of Vertebrate Limb Regeneration, Guelph, Canada, 1986.

American Society of Zoologists: New Approaches to the Cell Biology of Limb Regeneration, Nashville, Tennessee, 1986.

Singer Society Symposium: Regeneration, Chicago, Illinois, 1988 (Keynote Speaker).

NATO Advanced Research Workshop: Recent Trends in Regeneration Research, Athens, Greece, 1988 (Plenary Speaker).

American Association of Anatomists: Limb Development and Regeneration, New Orleans, Louisiana, 1989.

Midwest Regional Developmental Biology Symposium: West Lafayette, Indiana, 1990 (Keynote Speaker).

Mini-Symposium on Advances in Limb Development and Regeneration: University of Wisconsin, Madison, Wisconsin, 1991.

Singer Society Regeneration Symposium: University of Waterloo, Ontario, Canada, 1992.

Orthopaedic Research Society/POSNA Symposium: New Insights Into The Growth Plate, New Orleans, Louisiana, 1994.

Japanese Society for Developmental Biology: Tohoku University, Sendai, Japan, 1994.

Public Lecture to the City of Sendai: "Prospects for the Regeneration of Human Tissues and Organs: Natural and Artificial Tissue Engineering", Sendai, Japan, 1994.

FASEB Summer Research Conference: Wound Healing and Regeneration: At the Interface, Vermont Academy, Saxton's River, Vermont, 1994.

Singer Society Symposium: Development and Regeneration, University of Connecticut, Storrs, Connecticut, 1994 (Keynote Speaker).

American Society of Zoologists Symposium: The Cutting Edge: Biology of Wound Healing and Regeneration, St. Louis, Missouri, 1995.

Orthopaedic Research Society Symposium: Biology of the Growth Plate, Orlando, Florida, 1995.

International Symposium on Wound Healing and Regeneration: Hiroshima, Japan, 1995.

Keystone Symposium on Molecular and Cellular Biology: Wound Healing in Context, Taos, NM, 1996.

Minnesota Academy of Science: Minneapolis, Minnesota, 1997 (Keynote Speaker).

Japanese Society for Organogenesis and Tissue Engineering: Osaka, Japan, 1997.

Orthopaedic Research Society Symposium: New Orleans, Louisiana, 1998.

Japan Research & Technology Corporation Symposium: Stem Cells and Rejuvenation of Life, Oiso, Japan, 2000.

Biotechnology: Breakthroughs for Better Living (Alumni Association Frontiers in Science Series, School of Science, IUPUI), Indianapolis, IN, 2001

American Society for Investigative Pathobiology, Stem Cell Workshop, Orlando, FL, 2001

Midwest Developmental Biology Meeting, Columbia, MO, 2001 (Keynote speaker).

Hard Tissue Conference, Sun Valley, Idaho, 2001

Banbury Center Symposium, Stability and Reversal of the Differentiated State, Cold Spring Harbor, NY, 2001.

Third International Workshop on Musculoskeletal and Neuronal Interactions, Corfu, Greece, 2002

American Society for Investigative Pathology, Workshop on Multilineage Stem Cells, San Diego, CA, 2003

DARPA Regenesis Workshop, San Diego, CA, March 2003

Public Lecture, Biocomplexity III Workshop, Regenerative Biology and Medicine, Bloomington IN, May 2003

Plenary Lecture, Honors College Undergraduate Research Symposium, Central Missouri State University "The Legacy of Frankenstein", Warrensburg, MO, March 2004

DARPA Workshop "Accelerated Injury Repair", Washington DC, April 2004

Plenary Lecture, National Council for Undergraduate Research Annual Symposium, IUPUI, "The Legacy of Frankenstein", Indianapolis, IN, April 2004

Plenary Lecture, Terre Haute Center for Medical Education, "Establishing Successful Research Collaborations", Terre Haute, IN, May 2004

BIO 2004, Panel Chair, "Regenerative Biology and Medicine", San Francisco, CA, June 2004

REGENERATE Symposium, ""Developing a Regenerative Medicine: The Regenerating Amphibian Limb as an Experimental System", Seattle, WA, June 2004

Euroconference: Cellular and Molecular Basis of Regeneration, "The Amphibian Limb Regeneration Blastema: A Self-organizing System, San Feliu de Guixols, Spain, September 2004.

Enplas Science and Society Lecture, "The Legacy of Frankenstein, Biotechnology in the Modern Age" , Kennesaw State University, Kennesaw, GA, April 2005.

Plenary Lecture, 15th Annual Symposium of the Wound Healing Society, "A Call to Amphibian Arms: Weapons for Mammalian Regeneration", Chicago, IL, May 2005.

INTEL International Science Fair Workshop Lecture, "The Legacy of Frankenstein: Regenerative Biology and Medicine", Indianapolis, IN, May 2006.

Biocomplexity IV, Institute for Pure and Applied Mathematics Workshop: Systems Biology and Molecular Modeling. "Principles of Developmental Biology" and"Self-Organization of the Amphibian Limb Regeneration Blastema", University of California Los Angeles, May 2006.

Biotechnology Conference, Indiana Vocational and Technical Institute: "Regenerative Biology and Medicine: A Millennial Revolution", Bloomington, IN, October, 2006

Winter College, IUPUI: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Sanibel Harbour Resort and Spa, Fort Myers, FL, February, 2007.

Biocomplexity V, American Physical Society: "Regenerative Biology and Medicine: Research Opportunities for Physicists, Engineers and Mathematicians". Denver, CO, March 2007.

Indiana State Science Fair, Keynote Speaker: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Indianapolis, IN, March 2007.

Cuitting Edge Lectures, IUPUI: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Indianapolis, IN, October 2007.

University of Florida Regeneration Project: "Amphibian Limb Regeneration". Amelia Island Plantation, Jacksonville, FL, December 2007.

Symposium on Biotechnology: "Revolutions in Regeneration Science: iPS Cells and Beyond". Hiroshima University, March, 2008.

Biocomplexity VII, "Out on a Limb", Indiana University Bloomington, October 2009

Biocomplexity VII, Public Lecture: "The Legacy of Frankenstein", Indiana University Bloomington, October 2009

Regeneration Symposium, "Building a Regeneration Blastema", 2011 UNAM, Mexico City, Mexico

Invited Seminars

1968 Department of Biology, Brown University

Department of Biology, Emory University

Department of Zoology, University of Illinois

1970 Department of Anatomy, School of Medicine, University of Illinois at Chicago

1972 Department of Biology, Wittenberg University

1977 Department of Anatomy, School of Medicine, University of Wisconsin

1978 Department of Anatomy, School of Medicine, University of South Dakota

Neurobiology and Behavior Program, University of Illinois

1979 Department of Zoology, Indiana University

Department of Biology, Fisk University

Department of Biology, Princeton University

1980 Cell Biology Group, Department of Anatomy, School of Medicine, University of Michigan

1981 Department of Anatomical Sciences, University of Illinois

Department of Cell and Developmental Biology, University of California, Irvine

Medical Research Council, Laboratory of Molecular Biology, Cambridge, England

1982 Department of Zoology, Michigan State University (C.S. Thornton Memorial Lecture).

1983 Department of Zoology, University of Iowa

Department of Biology, University of Illinois at Chicago

1984 Department of Anatomy and Cell Biology, School of Medicine, University of Michigan

Department of Anatomy, University of Kentucky

Department of Zoology, Ohio State University

1985 Department of Zoology, University of Toronto

1986 Department of Anatomy, Rush Presbyterian-St. Lukes Medical Center

1987 Department of Molecular Biology, University of Texas at Dallas

Department of Anatomy, School of Medicine, University of New Mexico

Department of Zoology, Michigan State University

Department of Zoology, University of Maryland,

Department of Zoology, University of New Hampshire

Department of Biology, Princeton University

1988 Department of Biology, University of Maryland, Baltimore County

Department of Biology, Illinois Wesleyan University

Department of Biology, Miami University of Ohio

1989 Department of Biochemistry, Indiana University School of Medicine

School of Dental Medicine, Indiana University

1990 Department of Biology, DePauw University

1992 Department of Surgery, University of Minnesota

1993 Medical Sciences Program, Indiana University, Bloomington

Department of Biology, Indiana University,
Department of Biology, Tohoku University, Sendai, Japan

Department of Biology, Sogang University, Seoul, Korea

Department of Biology, Seoul National University, Seoul, Korea

College of Medicine, Seoul National University, Seoul, Korea

Yoshizato MorphoMatrix Project, Tsukuba, Japan

Developmental Biology Program, Children's Research Foundation, University of Cincinnati

1994 Gerontology Group, Indiana University School of Medicine

Department of Anatomy, Indiana University School of Medicine

1995 Department of Foods and Nutrition, Purdue University, West Lafayette

Department of Cellular Biology, University of Georgia, Athens

1996 Department of Biology, Yamagata City University, Japan

Department of Biology, Tohoku University, Sendai, Japan

Department of Physics, Indiana University-Purdue University, Indianapolis

1997 Faculty of Science, Hiroshima University, Hiroshima, Japan

Department of Biology, Sogang University, Seoul, Korea

1999 Regenerative Biology and Technology Project, Hiroshima University, Japan

Department of Biology, Indiana University-Purdue University, Indianapolis

Department of Physics, Indiana University-Purdue University, Indianapolis

Division of Bioengineering, University of Utah, Salt Lake City

2001 Endocrinology Division, School of Medicine, IUPUI

2002 Basic Medical Sciences, School of Veterinary Medicine, Purdue University, West Lafayette

Department of Computer and Information Science, IUPUI

Department of Biology, Florida Atlantic University, Boca Raton

2003 Developmental Biology Group, University College and King’s College, London

2004 Department of Chemistry, University of Southern Indiana

2005 Bioethics Research Rounds, Indiana University Center for Bioethics
2006 Department of Physics, Indiana University, Bloomington IN: "Self-Organization of the Amphibian Limb Regeneration Blastema: Cellular and Molecular Mechanisms". October, 2006

2007 University of Illinois Urbana-Champaign: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Urbana, IL, April 2007

Cook Executive Group, Bloomington, IN: "Indiana University Center for Regenerative Biology and Medicine". October, 2007

St. Mary's College of Maryland: "The Legacy of Frankenstein: Regenerative Biology and Medicine". St. Mary's City, MD, November 2007.

Coe College: "Road to Discovery: Self-Organization of the Amphibian Limb Regeneration Blastema". Cedar Rapids, IA, November 2007.

Coe College: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Cedar Rapids, IA, November 2007.

Department of Medical and Molecular Genetics, School of Medicine, IUPUI: Mechanisms of Limb Regeneration: Self –Organization of the Regeneration Blastema". Indianapolis, IN, December 2007

2008 Public Lecture, Hiroshima, Japan: "What are iPS Cells?" March, 2008

Amphibian Laboratory, Hiroshima University, Japan: "Self-Organization of the Amphibian Limb Regeneration Blastema". March, 2008

University of Illinois Urbana-Champaign: "The Legacy of Frankenstein: Regenerative Biology and Medicine". Urbana, IL, April 2008

Jacobs University, Bremen, Germany: "The Legacy of Frankenstein: Regenerative Biology and Medicine", May 2008.

Indiana State University: "The Legacy of Frankenstein: Regenerative Biology and Medicine", September, 2008.

Virginia Tech University: "The Legacy of Frankenstein: Regenerative Biology and Medicine", November, 2008

2009 University of Illinois Urbana-Champaign, Institute for Genomic Biology: "From Frankenstein to Four Factors: Regenerative Biology and Medicine". Urbana, IL, April, 2009

Cook Biotech, West Lafayette "Regenerative Medicine Today", September 2009.

Purdue University, Department of Animal Science, "From Frankenstein to Four Factors: Regenerative Biology and Medicine", October 2009

Indiana University-Purdue University Indianapolis, School of Dentistry, “Toward the Chemical Induction of Regeneration *in vivo*: Amphibians as Research Models”, November 2009

Indiana University Bloomington, Department of Physics, “Toward the Chemical Induction of Regeneration *in vivo*: Amphibians as Research Models”, November 2009

Indiana University-Purdue University Indianapolis, Scholarship at Lunchtime Series, “The Legacy of Frankenstein: Regenerative Biology and Medicine”

2010 Osher Life Long Learning Institute: “Frankenstein in the Modern Age” March, 2010 University of Illinois Urbana-Champaign, IL

Central Michigan University, Department of Chemistry, “From Frankenstein to Four Factors: Regenerative Biology and Medicine”., April 2010.

University of Illinois Urbana-Champaign, Institute for Genomic Biology, “From Frankenstein to Four Factors: Regenerative Biology and Medicine”, April 2010

Indiana University-Purdue University Indianapolis, Department of Biology, “A Proteomic Analysis of Blastema Formation in Regenerating Axolotl Limbs”, May, 2010.

Northeastern University, Department of Biology, “A Proteomic Analysis of Blastema Formation in Regenerating Axolotl Limbs”, October 2010.

Northeastern University, Public Lecture, “From Frankenstein to Four Factors: Regenerative Biology and Medicine”, October, 2010.

2011

Central Michigan University “Proteomic Analysis of Blastema formation in Regenerating Urodele Limbs”, May 2011

Central Michigan University “Introduction to Regenerative Biology and Medicine”, May 2011

2012

Osher Life Long Learning Institute, “Reprogramming the Genome for Resurrection and Regeneration”, March 2012 University of Illinois Urbana-Champaign, IL

University of Cincinnati, “Amphibian Limb Regeneration”, September, 2012.

SCIENTIFIC PRESENTATIONS TO CIVIC ORGANIZATIONS

1996 Scientech Club of Indianapolis, IN

1998 Kiwanis Club, Champaign, IL

North Indianapolis Sertoma Club, IN

Rotary Club of Indianapolis, IN

2002 Rotary Club, Carmel, IN

Retired Doctors Society

2003 Indiana Collaborative Research Breakfast Series

2005 Purdue Alumni of Indianapolis

Mini Medical School, IUSOM

Evolution Discussion Panel, *Inherit the Wind*, Indiana Repertory Theatre, Indianapolis, IN

2006

The Realms of Science, Symposium on Science and Faith, IUPUI, Indianapolis, IN

ICLU Debate, Evolution vs. Intelligent Design, Indianapolis, IN

2009

Regenerative Biology and Medicine, Broad Ripple American Legion Post, Indianapolis, IN

CONFERENCES, SYMPOSIA AND WORKSHOPS ORGANIZED

First Biennial Forum on Regeneration: Purdue University, 1977 (Co-Organizer).

Fourth Biennial Forum on Regeneration, University of Illinois: 1983 (Co-Organizer).

American Society of Zoologists Special Session: "New Approaches to the Cell Biology of Limb Regeneration", Nashville, Tennessee, 1986 (Organizer).

28th Midwest Regional Developmental Biology Meeting: University of Illinois: 1988 (Co-Organizer).

American Society of Zoologists: "The Cellular and Molecular Basis of Pattern Formation", San Francisco, California, 1988 (Organizer).

29th Midwest Regional Developmental Biology Meeting and 9th Biennial Regeneration Forum: University of Illinois, 1989 (Co-Organizer).

Fourth International Conference on Limb Development and Regeneration: Pacific Grove, California, 1992 (Co-Organizer).

International Workshop on the Molecular Biology of Axolotls and Other Urodeles: Indiana University-Purdue University, Indianapolis, Indiana, 1993 (Co-Organizer).

International Symposium on Wound Healing and Regeneration: Hiroshima, Japan, 1995 (Co-Organizer).

37th Midwest Regional Developmental Biology Meeting and Singer Symposium: Indianapolis, Indiana, 1997 (Co-Organizer).

International Symposium: Regeneration and Metamorphosis: Keys to Tissue Restoration, Indiana University-Purdue University, Indianapolis, 1997 (Organizer).

38th Midwest Regional Developmental Biology Meeting: Indianapolis, Indiana, 1998 (Co-Organizer)

American Society for Investigative Pathology, Workshop: Multilineage Stem Cells, San Diego, CA, 2003

Institute for Biocomplexity: Regenerative Biology and Medicine, Indiana University Bloomington, 2004, Co-organizer.

REVIEWER SERVICE

Reviews of manuscripts for Science, Cell, Developmental Biology, International Journal of Developmental Biology, Journal of Experimental Biology, Development, Developmental Dynamics, Anatomical Record, Phvsiological Zoology, Roux's Archiv, Differentiation, Journal of Experimental Zoology, Wound Repair and Regeneration, Teratology, Cardiac and Vascular Regeneration. Reviews of grant proposals for the National Science Foundation, National Institutes of Health, Veterans Administration, National Research Council of Canada, Wellcome Trust, National Research Council, March of Dimes, NASA, and various private foundations.

SERVICE ON SCIENTIFIC PANELS AND BOARDS

Editorial Boards

Regenerative Medicine, 2000-2003

Cardiac and Vascular Regeneration, 2000-2002.

Wound Repair and Regeneration, 2003-

Development, Growth, Differentiation, 2005-

National Science Foundation

Developmental Biology Program, 1985-86.

Instrumentation and Laboratory Improvement Program, 1989, 1991.

Faculty Awards for Women, 1990.

National Institutes of Health

Site Visit Panel Member: 1985, 1990, 1991.

NICHD, Panel member for RFA on Limb Development and Regeneration, 1985.
Special Reviewer, Cell Biology Study Section, NICHD, 1986.

Special Reviewer, Molecular Cytology Study Section, 1991.

Special Reviewer, 2005

Other Service

Veterans Administration Regeneration Research Advisory Board, 1985-1990.

Board of Directors, Indianapolis Corporation for Advanced Research, 1989-2004.

Chair, Axolotl Colony Advisory Committee, Indiana University, 1996-2004.

Finance Committee, American Association of Anatomists, 2002-2005.

Mentor for three-student team from Ma'aynot Yeshiva High School, Teaneck NJ entered in the NSTA/Toshiba ExploraVision National Contest, February-June, 2010. Their project focused on theoretical ways to regenerate a human limb. The team took second place in the national finals for grades 7-9.

Consultant to two local high school teams entered in science contests, October 2010. Subjects: limb regeneration, and nanobot eradication of cancer cells.

RESEARCH GRANTS AWARDED

Society of Sigma Xi Grant-in-Aid, $250, 1969-1970.

NSF Grant BMS 71-015 79 A01, $44,900, 1972-1977.

NIH Grant HD 8057, $320,552 direct costs, 1973-1978 (Co-PI with H.E. Conrad))

NIH Grant HD 12659, $80,000 direct costs, 1979-1982.

NIH Grant HD 12659, $171,000 direct costs, 1982-1985.

NIH Grant HD 12659, $239,250 direct costs, 1986-1990.

Research Contract: Limb and Spinal Cord Regeneration, Eli Lilly and Company, $277,126, 1999-2001

Indiana 21st Century Research & Technology Fund, $939,338, 2001-2003.

National Science Foundation, $600,000, Co-PI with Ellen Chernoff, 2001-2004.

DARPA SBIR II, $200,000, 2004-2005 (subcontract with Robert Fitzsimmons).

Indiana 21st Century Research and Technology Fund, $1,680,884, 2004-2006.

Keck Foundation, $1, 600, 000, 2006-2011.

Army Research Office, $395,000, 2007-2011

RSFG (IUPUI), Co-Investigator with Fengyu Song, “Qualitative and Quantitative Study of Repair in Segmental Defects of the Limb and Mandibular Bones of the Axolotl”, $22,800, 2010-2011.

U.S. Army medical Research & Materiel Command, Telemedicine Advanced Technology Research Center. Special Congressional Appropriation, $1,000,000, 2011-2014.

RESEARCH STUDENTS and SCIENTISTS

Research Scientists

James B. Nardi 1982-1983 "Surface properties of regenerating limb cells"

Fengyu Song 2006-2007 “Distal Boundary Formation in Regenerating Amphibian Limbs” (Currently Assistant Professor in the Indiana University School of Dentistry)

Nandini Rao 2007-2010 “Proteomic Studies of Limb Regeneration in *Ambystoma* and *Xenopus*”

Bingbing Li 2007-2009 “Restoration of Regenerative Capacity in *Xenopus* Froglet Limbs”

Xiaoping Chen 2010-2014: “Segment Defect Regeneration in the Extremities of Urodele Amphibians”

Ph.D. Students

Morzlock, Frank V., Ph.D., 1971. "Neural control of RNA synthesis in regenerating limbs of the adult newt".

Dearlove, George E., Ph.D., 1973. "Neural control of protein synthesis during amphibian limb regeneration".

Keller, Raymond E., Ph.D., 1975. "Vital dye mapping of the gastrula and neurula of Xenopus laevis".

Pescitelli, Maurice J., Ph.D., 1980. "Intercalary regeneration in larval Ambystoma limbs: The origin of skeletal structures and the non-segmental organization of morphogenetic information".

Kim, Won-Sun, Ph.D., 1985. "The use of retinoids for analysis of positional value in regenerating urodele limbs".

Crawford, Karen, Ph.D., 1987. "The use of retinoids and in vivo "affinophoresis" assay to analyze the cellular basis of positional memory in regenerating axolotl limbs"

Ludolph, D.C., Ph.D. 1992. "A model for the effects of retinoic acid on positional identity in the transverse axes of the regenerating axolotl limb" (Co-advisor with J.A. Cameron).

Paul Miller (Current) “Role of Evi 5 in Mitosis During Blastema Formation in Regenerating Axolotl Limbs”.

Master of Science Students

Powers, Eula, M.S., 1969 (non-thesis degree).

Kuntz, Raymond L., M.S., 1973. "Regulation in shift-level transplants of amphibian limb regeneration blastemas".

Alex, Anne E., M.S., 1982. "Skeletal regeneration in Ambystoma mexicanum after removal of the anterior or posterior half of the forelimb and hindlimb zeugopodium".

Sieben, Louise, M.S., 1984. "Brachial spinal ganglion response to peripheral overload in the larval axolotl, Ambystoma mexicanum".

Chao, Mark, M.S., 1987. The effects of retinoic acid on regenerating double dorsal and ventral axolotl limbs.

Bergstrom, David, M.S. 1990. "Isolation and characterization of a putative axolotl cDNA of cellular retinoid acid binding protein".

Behnaz Mahmoudi (current) “VEGF Expression in Regeneration-Competent vs. Regeneration-Deficient Amphibian Limbs”

Undergraduate Research Students

I have directed the research of ~60 undergraduate students from 1968-present. Many of these students have become physicians, and several, such as Douglas Melton, Harvard University, Thomas Poole, Syracuse University, and George Guidice, University of Wisconsin Medical College have gone on to outstanding research careers.

TEACHING AND SERVICE ACTIVITIES

Undergraduate Courses Taught

At University of Illinois

Developmental Biology
Evolution
Comparative Anatomy
Cells and Tissues
Histology
The Organism (Honors Biology Program)

At IUPUI

Cell Biology
Developmental Biology

Graduate Courses Taught

At University of Illinois

Analysis of Development
Experimental Development
Developmental Biology Seminar
Developmental Morphogenesis Seminar

At IUPUI

Regenerative Biology and Medicine

Committee Service

Throughout my career, I have served as a member or chairman of numerous committees at the departmental, school and university levels, including search and screen committees for faculty and administrative hires.

Other Service

I have served as a judge at numerous science fairs at the grade school, high school, local, national, and international level, and have served as mentor for several high school students locally and nationally doing projects on regeneration.