



UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

4301 JONES BRIDGE ROAD  
BETHESDA, MARYLAND 20814-4799



12 April 2005

Licensing Assistant Section  
Nuclear Materials Safety Branch  
U. S. Nuclear Regulatory Commission, Region I  
475 Allen Dale Road  
King of Prussia, Pennsylvania 19406-1415

03020775 03032810

SUBJECT: Amendment of USNRC Materials Licenses 19-23344-01 and 19-23344-02

Dear Sir:

Enclosed are two completed NRC Form 313, requesting amendment to the U.S. Nuclear Regulatory License Number 19-23344-01 and License Number 19-23344-02, issued to the Uniformed Services University of the Health Sciences (USUHS), Bethesda, MD. A summary of the requested amendments is as follows:

CAPT (ret) Jerry A. Thomas, Chairman of the USUHS Radiation Safety Committee (RSC), will be leaving the USUHS to take another job in the State of Kansas on or about 18 April 2005. He will remain as a member of the USUHS Radiation Safety Committee in a consultant role under the title of Vice-Chairman. Request that Dr. Michael J. Daly, Associate Professor, Department of Pathology be listed as the new Chairman of the USUHS RSC on both of our NRC Licenses -- Numbers: 19-23344-01 and 19-23344-02, with an effective date of 25 April 2005,. Dr. Daly's training and experience and curriculum vitae are enclosed.

Dr. Daly has the unanimous support and endorsement of the Radiation Safety Committee and myself for this appointment. He will receive full support from my office and the RSC in the execution of his duties as Chairman of the RSC.

If you have any questions in this matter, please contact Major Daniel S. Hamilton, Radiation Safety Officer, at (301) 295-3390.

Sincerely,

Larry W. Laughlin, M.D., Ph.D.  
Interim President

Enclosure(s):  
As stated

05 APR 15 29:38

RECEIVED  
REGION 1



## NRC FORM 313

(4-2004)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

## U.S. NUCLEAR REGULATORY COMMISSION

## APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2005

Estimated burden per response to comply with this mandatory collection request: 7 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

## APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

## IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-4005

03020775  
X

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☐ A. NEW LICENSE  
☒ B. AMENDMENT TO LICENSE NUMBER 19-23344-01  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

## 2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

Uniformed Services University of The Health Sciences  
4301 Jones Bridge Road  
Bethesda, Maryland 20814-4799

## 3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

4301 Jones Bridge Road, Bethesda, Maryland  
1530 East Jefferson Street, Rockville, Maryland

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Major Daniel S. Hamilton

## TELEPHONE NUMBER

(301) 295-3390

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

## 5. RADIOACTIVE MATERIAL

- a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

## 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

## 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

## 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

## 9. FACILITIES AND EQUIPMENT.

## 10. RADIATION SAFETY PROGRAM.

## 11. WASTE MANAGEMENT.

## 12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY AMOUNT ENCLOSED \$

## 13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.


THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

## CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Larry W. Laughlin, MD, PhD, Interim President

## SIGNATURE



DATE APR 12 2005

APR 12 2005

## FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	



**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE  
MICHAEL J. Daly, Ph.D.**

**MICHAEL JOHN DALY, Ph.D.**

Address:	Uniformed Services University of the Health Sciences
Department:	Pathology (PAT)
Citizenship:	USA
Academic Rank/Title:	Associate Professor (with tenure)
Email:	mdaly@usuhs.mil

**SUMMARY OF EXPERIENCE IN RADIATION SAFETY & HANDLING**

<u>Institution, Role</u>	<u>Specialty</u>	<u>Dates</u>
USUHS, Principal Investigator	Radiation Biology	1992-Present
USUHS, Radiation Safety Committee (RSC)	Health Physics	2003-Present
US Department of Energy, Reviewer	Heavy Radionuclides	1997-Present
National Academy of Sciences, Advisor	Radiation Physics	1999-Present

TRAINING AND EXPERIENCE IN BASIC RADIOISOTOPE HANDLING TECHNIQUES (1992-Present)				
Radionuclides (See CV)	Peer-Reviewed Publications reporting handling of radionuclides: see CV citation no.	Instruction: Aspects of Radionuclide Handling, Safety & Use (hours)	Supervised Laboratory Experience (hours)	Formal Training, Mandatory Radiation Courses, RSC Service (hours)
$^{60}\text{Co}$	1, 3, 7, 8, 9, 17, 19, 22, 23, 25, 26, 27, 28, 31, 32, 34, 35, 36, 37	300	100	50
$^{137}\text{Cs}$	1, 3, 4, 7, 16, 17, 19, 25, 38	100	400	30
$^{99}\text{Tc}$	4, 18	15	5	---
$^{238}\text{U}$	18	15	5	---
$^{32}\text{P}$	7, 8, 17, 25, 26, 27, 28, 31, 32, 33, 34	200	200	100
<b>THEORY</b>	3, 2, 11, 12, 15, 20, 21, 23, 24	50	--	40
Total	> 30 research papers	680	710	220

**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE  
MICHAEL J. Daly, Ph.D.**

**EDUCATION**

Ph.D.	Genetics	University of London, U.K.	1988
B.Sc. (Hons.)	Molecular Biology	University of London, U.K.	1984
A-levels	Bio./Chem./Phys.	King's School, Canterbury, U.K.	1981

**EMPLOYMENT RECORD**

<b>Associate Professor</b> of Pathology, and Molecular/Cell Biology	2002-Present
<b>Chairman</b> , USUHS Radiation Safety Committee	2005-2010
<b>Assistant Professor</b> of Pathology, and Molecular/Cell Biology with Prof. Robert Friedman	1999-2002
<b>Committee on the Origins and Evolution of Life</b> , National Academy of Sciences	2003-Present
<b>Planetary Task Group Member</b> , National Academy of Sciences	1999-2001
<b>Adjunct Associate Professor</b> Birla Institute of Science, Pilani, India	1999-Present
<b>Principal Investigator</b> , Dept. of Pathology, USUHS	1996-Present
<b>Research Assistant Professor</b> , Dept. of Pathology, USUHS with Prof. Robert Friedman	1992-1999
<b>NIH Postdoctoral Fellow</b> - Michael Lichten's Group Laboratory of Biochemistry National Cancer Institute, NIH, Bethesda, MD	1988-1992
<b>Ph.D. Student (Genetics)</b> , University of London, U.K.	1984-1988
<b>Research Assistant</b> The Genetics Institute, Cambridge, MA	1984
<b>Intramural Research Student</b> - Maxine Singer's Group Laboratory of Biochemistry National Cancer Institute, NIH, Bethesda, MD	1983
<b>Intramural Research Student</b> - Elliot Charney's Group NIDDK, NIH, Bethesda, MD	1982
<b>AWARDS:</b> University of London Drapers Foundation Prize	1985-1987
United Kingdom Overseas Research Scholarship	1984-1987
National Cancer Institute, Recognition Award	1991
Millennium Cover Story, US News and World Report	2000
Henry Wu Award, USUHS	2003

**SELECTED PUBLICATIONS: 1994-2005**

1. D. Ghosal, M. V. Omelchenko, E. K. Gaidamakova, V. Y. Matrosova, A. Vasilenko, A. Venkateswaran, H. M. Kostandarithes, H. Brim, K. S. Makarova, L. P. Wackett, J. K. Fredrickson and **MICHAEL J. DALY** (2005) How radiation kills cells: Survival of *Deinococcus radiodurans* and *Shewanella oneidensis* under oxidative stress. *FEMS Microbiology Reviews* **29**, 361-375.
2. J. Szostak, J. C. Wheeler, S. A. Benner, J. Berry, R. Blake, W. Calvin, **MICHAEL J. DALY**, K.

**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE  
MICHAEL J. Daly, Ph.D.**

- H. Freeman, J. P. Gogarten, J. F. Kasting, A. Keefe, M. Keller, S. Pizzarello, J. Siefert, R. Summons, N. Woolf and L. M. Ziurys (2005) The astrophysical context of life. The National Academies Press, National Academy of Sciences, Washington, D.C, In Press.
3. **MICHAEL J. DALY**, E. K. Gaidamakova, V. Y. Matrosova, A. Vasilenko, M. Zhai, A. Venkateswaran, M. Hess, M. V. Omelchenko, H. M. Kostandarithes, K. S. Makarova, L. P. Wackett, J. K. Fredrickson and D. Ghosal (2004) Accumulation of Mn(II) in *Deinococcus radiodurans* facilitates gamma-radiation resistance. *Science* **306**, 925-1084.
4. J. K. Fredrickson, J. M. Zachara, D. L. Balkwill, D. Kennedy, S. W. Li, H. M. Kostandarithes, **MICHAEL J. DALY**, M. F. Romine and F. J. Brockman (2004) Geomicrobiology of high level nuclear waste contaminated vadose sediments at the Hanford Site, Washington state. *Appl. Environ. Microbiol.* **70**, 4230-4241.
5. M. Sandigursky, S. Sandigursky, P. Sonati, **MICHAEL J. DALY** and W. A. Franklin (2004) Uracil-DNA glycosylase activities in *D. radiodurans*. *DNA Repair*, **3**, 163-169.
6. J. R. Battista, M. M. Cox, **MICHAEL J. DALY**, I. Narumi, M. Radman and S. Sommer (2003) The structure of *Deinococcus radiodurans*. *Science*, **302**, 567-568.
7. H. Brim, A. Venkateswaran, H. M. Kostandarithes, J. K. Fredrickson and **MICHAEL J. DALY** (2003) Genetic development of *D. geothermalis* for bioremediation of high temperature radioactive waste environments. *Appl. Environ. Microbiol.*, **69**, 4575-4582.
8. Y. Liu, J. Zhou, A. Beliaev, J. Stair, L. Wu, D.K. Thompson, D. Xu, A. Venkateswaran, M. Omelchenko, M. Zhai, E. K. Gaidamakova, K. S. Makarova, E. Koonin and **MICHAEL J. DALY** (2003) Transcriptome dynamics of *Deinococcus radiodurans* recovering from ionizing radiation. *Proc. Natl. Acad. Sci. USA*, **100**, 4191-4196.
9. M. S. Lipton, L. Pasa-Tolic, G. A. Anderson, D. J. Anderson, D. Auberry, J. R. Battista, **MICHAEL J. DALY**, J. K. Fredrickson, K. K. Hixson, H. Kostandarithes, T. Conrads, C. Masselon, M. Markille, R. J. Moore, M. F. Romine, Y. Shen, N. Tolic, H. R. Udseth, T. D. Veenstra, A. Venkateswaran, K. K. Wong, R. Zhao and R. D. Smith (2002) Global analysis of the *Deinococcus radiodurans* R1 proteome using accurate mass tags. *Proc. Natl. Acad. Sci. USA*. **99**, 11049-11054.
10. J-I Kim, A. K. Sharma, S. N. Abbot, E. A. Wood, D. Dwyer, A. Jambura, K. W. Minton, R. B. Inman, **MICHAEL J. DALY** and M. M. Cox (2002) RecA protein from the extremely radioresistant bacterium *Deinococcus radiodurans*: Expression, purification, and characterization. *J. Bacteriol.* **184**, 1649-60.
11. **MICHAEL J. DALY** (2002) The Quarantine and certification of martian samples: Appendix A: *Deinococcus radiodurans* as an analogue to extremophile organisms that may have survived on Mars. *National Academy Press*, Commission on Physical Sciences, Mathematics, and Applications, pp. 67-69 (<http://www.nap.edu/books/0309075718/html/67.html>).
12. K. S. Makarova, L. Aravind, Y. I. Wolf, R. L. Tatusov, K. Minton, E. V. Koonin and **MICHAEL J. DALY** (2001) The genome of the extremely radiation resistant bacterium *Deinococcus radiodurans* viewed from the perspective of comparative genomics. *Microbiology and Molecular Biology Reviews* **65**, 44-79.
13. **MICHAEL J. DALY** (2001) The emerging impact of genomics on the development of biological weapons: Threats and benefits posed by engineered extremophiles. *Clinics in Laboratory Medicine* **21**, 619-629.
14. J. Nolling, G. Breton, M. V. Omelchenko, K. S. Makarova, Q. Zeng, R. Gibson, H. M. Lee, J. Dubois., D. Qiu, J. Hitti, Y. I. Wolf, R. L. Tatusov, F. Sabathe, L. Doucette-Stamm, R. L. Tatusov, P. Soucaille, **MICHAEL J. DALY**, G. N. Bennett, E. V. Koonin and D. R. Smith

**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE**

**MICHAEL J. Daly, Ph.D.**

- (2001) Genome sequence and comparative analysis of the solvent-producing bacterium *Clostridium acetobutylicum*. *J. Bacteriol.* **183**, 4823-4838.
15. A. F. Cheng, B. C. Clark, **MICHAEL J. DALY**, E. I. Friedman, B. M. Jakosky, R. Y. Morita, A.-L. Reysenbach, D. A. Stahl and L. W. Esposito (2001) Planetary Protection for Europa, Space Studies Board, National Research Council, National Academy of Sciences, Washington, D.C. (<http://www.nationalacademies.org/ssb/europamenu.htm>).
  16. **MICHAEL J. DALY** (2000) Engineering radiation-resistant bacteria for environmental biotechnology. *Current Opinion in Biotechnology* **11**, 280-285.
  17. H. Brim, S. McFarlan, L. Wackett, K. W. Minton, M. Zhai, J. Fredrickson and **MICHAEL J. DALY** (2000) Engineering *Deinococcus radiodurans* for metal remediation in radioactive mixed waste environments. *Nature Biotechnology* **18**, 85-90.
  18. J. K. Fredrickson, H. M. Kostandarithes, A. W. Li, A. E. Pyle and **MICHAEL J. DALY** (2000) Reduction of Fe(III), Cr(VI), U(VI), and Tc(VII) by *Deinococcus radiodurans*. *Appl. Environ. Microbiol.* **66**, 2006-2011.
  19. A. Venkateswaran, S. C. McFarlan, D. Ghosal, K. W. Minton, A. Vasilenko, K. Makarova, L. P. Wackett and **MICHAEL J. DALY** (2000) Physiologic determinants of radiation resistance in *Deinococcus radiodurans*. *Appl. Environ. Microbiol.* **66**, 2620-2626.
  20. K. S. Makarova, L. Aravind, **MICHAEL J. DALY** and E. V. Koonin (2000) Specific expansion of protein families in the radioresistant bacterium *Deinococcus radiodurans*. *Genetica* **108**, 25-34.
  21. O. White, J. A. Eisen, J. F. Heidelberg, E. K. Hickey, J.D. Peterson, R. J. Dodson, C. Zalewski, K. S. Makarova, L. Aravind, **MICHAEL J. DALY**, K. E. Nelson, S. Salzberg, H. O. Smith, J. C. Venter, C. M. Fraser *et al.*, (1999) Sequencing and functional analysis of the *Deinococcus radiodurans* genome. *Science* **286**, 1571-1577.
  22. J. Lin, R. Qi, C. Aston, J. Jing, T. S. Anantharaman, B. Mishra, O. White, K. W. Minton, **MICHAEL J. DALY**, J. C. Venter and D. C. Schwartz (1999) Whole genome shotgun optical mapping of *Deinococcus radiodurans* using genomic DNA molecules. *Science* **285**, 1558-1561.
  23. R. C. Richmond, R. Sridhar and **MICHAEL J. DALY** (1999) Physicochemical survival pattern for the radiophile *Deinococcus radiodurans*: A polyextremophile model for life on Mars. *SPIE*, **3755**, 210-222.
  24. K. S. Makarova, Y. I. Wolf, K. W. Minton, O. White and **MICHAEL J. DALY** (1999) Short repeats and insertional elements in *Deinococcus radiodurans* and comparison to other bacterial species. *Res. Microbiol.* **150**, 711-724.
  25. C. Lange, L. P. Wackett, K. W. Minton and **MICHAEL J. DALY** (1998) Engineering a recombinant *Deinococcus radiodurans* for organopollutant degradation in radioactive mixed waste environments. *Nature Biotechnology* **16**, 929-933.
  26. **MICHAEL J. DALY** and K. W. Minton (1997) Recombination between a resident plasmid and the chromosome following irradiation of the radioresistant bacterium *Deinococcus radiodurans*. *Gene* **187**, 225-229.
  27. J. D. Carroll, **MICHAEL J. DALY** and K. W. Minton (1996) Expression of *recA* in *Deinococcus radiodurans*. *J. Bacteriol.* **178**, 130-135.
  28. **MICHAEL J. DALY** and K. W. Minton (1996) An alternative pathway for recombination of chromosomal fragments precedes *recA*-dependent recombination in the radioresistant bacterium *Deinococcus radiodurans*. *J. Bacteriol.* **178**, 4461-4471.
  29. **MICHAEL J. DALY** and K. W. Minton (1995) Resistance to radiation. *Science* **270**, 1318.
  30. K. W. Minton and **MICHAEL J. DALY** (1995) A model for repair of radiation induced DNA

**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE  
MICHAEL J. Daly, Ph.D.**

- DSB's in the extreme radiophile *Deinococcus radiodurans*. *Bioessays* **17**, 457-464.
31. **MICHAEL J. DALY** and K. W. Minton (1995) Interchromosomal recombination in the extremely radioresistant bacterium *Deinococcus radiodurans*. *J. Bacteriol.* **177**, 5495-5505.
  32. **MICHAEL J. DALY**, L. Ouyang, P. Fuchs and K. W. Minton (1994) *In vivo* damage and *recA*-dependent repair of plasmid and chromosomal DNA in the radioresistant bacterium *Deinococcus radiodurans*. *J. Bacteriol.* **176**, 3508-3517.
  33. **MICHAEL J. DALY**, L. Ouyang and K. W. Minton (1994) Interplasmidic recombination following irradiation of the radioresistant bacterium *Deinococcus radiodurans*. *J. Bacteriol.* **176**, 7506-7515.

**Submitted Papers**

34. J. Qin, L. Song, Hassan Brim, **MICHAEL J. DALY** and A. O. Summers (2005) Sequestration and protection by the MerR metal binding domain (MBD). *Mol. Microbiol.*, Submitted.
35. M. V. Omelchenko, Y. I. Wolf, E. K. Gaidamakova, V. Y. Matrosova, A. Vasilenko, **MICHAEL J. DALY**, E. V. Koonin and K. S. Makarova (2005) Comparative genomics of *Thermus thermophilus* HB27 and *Deinococcus radiodurans* R1: Divergent paths of adaptation to thermophily and radiation resistance. *Genome Biology*, Submitted
36. X. Qiu, **MICHAEL J. Daly**, A. Vasilenko, M. V. Omelchenko, L. Wu, J. Zhou, G. W. Sundin and J. M. Tiedje (2005) Transcriptome analysis applied to survival of *Shewanella oneidensis* MR-1 exposed to ionizing radiation. *J. Bacteriol.*, Submitted.
37. H. Brim, J. P. Osborne, A Venkateswaran, M. Zhai, J. K. Fredrickson, L. P. Wackett and **MICHAEL J. DALY** (2005) Facilitated chromate reduction by *Deinococcus radiodurans* engineered for growth on toluene. *Appl. Environ. Microbiol.*, Submitted.
38. **MICHAEL J. DALY**, E. K. Gaidamakova, A. Vasilenko, V. Y. Matrosva, M. Zhai, L. P. Wackett and J. K. Fredrickson (2005) Mn-Cycling in *Deinococcus radiodurans* to be submitted to *Science*, May 2005.

**Current Support**

- 1) Status: **Active: M. Daly (P. I.)** \$1,200,000. 09/15/04-9/14/07. **Department of Energy**. NABIR. "Characterizing the Catalytic Potential of *Deinococcus*, *Arthrobacter* and other Robust Bacteria in Contaminated Subsurface Environments of the Hanford Site." This grant funds work on characterizing the metal reducing and Mn-dependent resistance functions of *Deinococcus* and *Arthrobacter* spp. Sponsor Award# DE-FG01-04ER04-06. Percent time commitment in FY05: 40%. ([http://www.usuhs.mil/pat/deinococcus/index\\_20.htm](http://www.usuhs.mil/pat/deinococcus/index_20.htm)).
- 2) Status: **Active: M. Daly, Principal Investigator (P. I.)** \$1,200,000. 9/15/01-9/14/04; with no-cost extension to 9-14-05. **Department of Energy**. Genomes to Life (Microbial Cell Program). "The Dynamics of Cellular Stress Responses in *Deinococcus radiodurans*." Examining the gene expression networks underlying the extreme radiation resistance phenotype of *D. radiodurans* using high throughput MS and DNA microarrays. Sponsor Award# DE-FG02-01ER63220. Percent time commitment in FY04-05: 30%. ([http://www.usuhs.mil/pat/deinococcus/index\\_20.htm](http://www.usuhs.mil/pat/deinococcus/index_20.htm)).



**TRAINING AND EXPERIENCE OF  
CHAIRMAN, RADIATION SAFETY COMMITTEE  
MICHAEL J. Daly, Ph.D.**

- 3) Status: **Active: M. Daly (P. I.)** \$96,000. 04/15/05-9/14/06. **Department of Energy.** "Proteomic Analysis of *Deinococcus radiodurans* Under Oxidative Stress." This grant funds work on expanding the biological role of proteomic facilities at Pacific Northwest National Laboratory, Richland, WA, using *Deinococcus radiodurans* as a model system. Percent time commitment in FY05: 5%.
- 4) Status: **Pending: M. Daly (P. I.)** \$40,000. 06/15/05-9/30/07. **USUHS.** "Improving the Radiation Resistance Characteristics of Environmental Organisms." This grant develops ideas published in *FEMS Microbiology Reviews* **29**, 361-375 (2005). Proposed percent time commitment in FY05: 5%.

This is to acknowledge the receipt of your letter/application dated

4/12/2005, and to inform you that the initial processing which includes an administrative review has been performed.

☒ Amendments 19-23344-01/19-23344-02  
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 136878/136879  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.

BETWEEN: : (FOR LFMS USE)  
 : INFORMATION FROM LTS  
 : -----  
 :  
 License Fee Management Branch, ARM : Program Code: 01100  
 and : Status Code: 0  
 Regional Licensing Sections : Fee Category: EX 3L  
 : Exp. Date: 20050531  
 : Fee Comments: 170.11(A) (4) & (5)  
 : Decom Fin Assur Req'd: Y  
 : ::::::::::::::::::::::::::::::::::::::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED  
Applicant/Licensee: UNIFORMED SERVS. UNIV. OF HEALTH SC  
Received Date: 20050415  
Docket No: 3020775  
Control No.: 136878  
License No.: 19-23344-01  
Action Type: Amendment

2. FEE ATTACHED  
Amount: /  
Check No.: /

3. COMMENTS

Ref. 136879

Signed Rafael J. Jarama  
Date 4/22/05

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /\_\_/)

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:  
Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER \_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_

BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

: (FOR LFMS USE)  
: INFORMATION FROM LTS  
: -----  
:  
: Program Code: 03510  
: Status Code: 0  
: Fee Category: EX 3E  
: Exp. Date: 20121031  
: Fee Comments: 170.11(A)(4) & (5)  
: Decom Fin Assur Req'd: N  
: .....

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: UNIFORMED SERVS. UNIV. OF HEALTH SC  
Received Date: 20050415  
Docket No: 3032810  
Control No.: 136879  
License No.: 19-23344-02  
Action Type: Amendment

2. FEE ATTACHED

Amount: /  
Check No.: /

3. COMMENTS

Ref. 136879

Signed Rebecca J. Jones  
Date 4/21/05

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /\_\_/)

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:

Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER \_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_