

# Curriculum Vitae - John Stanton

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## 1. General Biographical Information.

### **John F. Stanton**

Professor of Civil Engineering, University of Washington.

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## 2. Academic Background

B.A. (Mechanical Sciences)	Cambridge U., UK	1967
M.A. (Mechanical Sciences)	Cambridge U., UK	1970
M.S. (Civil Engineering)	Cornell U., USA	1977
Ph.D. (Civil Engineering)	U. of CA, Berkeley, USA	1979

## 3. Professional History

Professor,	Dept of Civil Eng., U. of Washington	1992-present
Assoc. Professor,	Dept of Civil Eng., U. of Washington	1984-1992
Assist. Professor,	Dept of Civil Eng., U. of Washington	1978-1984
Graduate RA.	Dept of Civil Eng., U. Cal. Berkeley,	1975-1978
Graduate RA.	Dept of Civil Eng., Cornell U.,	1973-1975
Structural Engineer	Regis Trudeau et Associes, Montreal	May-Oct 1974
Structural Engineer	Ove Arup & Partners, Paris France,	1972-1973
Instructor (part-time)	Architectural Association. London,	1969-1972
Structural Engineer	Ove Arup & Partners, London England	1968-1972
Structural Engineer	W.S. Atkins, Epsom, England	1967-1968

#### **4.1. Refereed Journal Publications**

- Stanton, J. F. and McNiven, H. D., (1980) "Towards an Optimum Model for Reinforced Concrete," *Earthquake Engineering and Structural Dynamics*. Vol. II, pp. 299-312.
- Stanton, J. F., "Point Loads on Precast Concrete Floors," (1983) *ASCE, Jo. Str. Eng.* Vol. 109 No. 11, Nov., pp. 2619-2637.
- Roeder, C. W. and Stanton, J. F., (1983). "Elastomeric Bearings: A State of the Art," *ASCE Jo. Str. Eng.* Vol. 109 No. 12, Dec., pp. 2853-2871.
- Stanton, J. F. and Roeder, C.W., (1983) "Elastomeric Bridge Bearing Specifications: A Review of the Present of Proposals for the Future," *ACI Proc.* Vol. 80 No. 6, Nov.-Dec., pp. 514-525.
- Banerjee, S., Stanton, J. F., and Hawkins, N. M., (1987) "Seismic Performance of Precast Prestressed Concrete Piles," *ASCE Jo. Str. Eng.* Vol. 113 No. 2, Feb., pp. 381-396.
- Stanton, J. F., (1987) "Proposed Design Rules for Load Distribution in Hollow-Core Decks," *ACI Str. Jo.*, Vol. 85, No. 5, Sept-Oct., pp. 371-382.
- Dolan, C. W., Stanton, J. F., and Anderson, R. G., (1987) "Moments Resistant Connections and Simple Connections: A Summary of PCISFRAD Projects 1 and 4," *PCI Jo.*, Vol. 32 No. 2, March/April, pp. 62-74.
- Stanton, J. F., (1987) "Connections in Precast Concrete Structures," *Concrete International, Design and Construction*, Vol. 9, No. 11, Nov., pp. 49-53.
- Roeder, C. W., Stanton, J. F., and Taylor, A. W., (1990). "Fatigue of Steel Reinforced Elastomeric Bearings," *ASCE, Jo. Str. Div.*, 116(2), Feb., pp 407-426.
- Stanton, J. F., Scroggins, G., Taylor, A. W. and Roeder, C. W. (1990). "Stability of Elastomeric Bearings." *ASCE Jo. Eng. Mech.*, 116(6), June, pp. 1351-1371.
- Roeder, C. W., Stanton, J.F., and Feller, T., (1990). "Low Temperature Performance of Elastomers," *ASCE, Jo. Cold Regions Eng.* 4(3), Sept. 1990 pp. 113-132.
- Stanton, J.F., and Roeder, C.W., (1991). "Advantages and Limitations of Seismic Isolation". *EERI Spectra*, Vol. 7, No. 2, May, pp. 301-309.
- Roeder, C.W. and Stanton, J.F., (1991). "State of the Art Elastomeric Bridge Bearing Design," *ACI Str. Jo.*, 88(1), Jan-Feb., pp. 31-41.

- Roeder, C.W. and Stanton, J.F., (1991). "Design of Laminated Elastomeric Bridge Bearings". *TRB Research Record*, No 1290, (Papers presented at the 3rd Bridge Engineering Conference, Denver, March, Washington DC, vol. 1. pp. 199-206.
- Stanton, J.F., Hicks, T.R. and Hawkins, N.M., (1991). "PRESSSS Project 1.3 - Connection Classification and Evaluation". *PCI Jo.*, 36(5), Sept.-Oct., pp. 62-71.
- Stanton, J.F. and Roeder, C.W. "Elastomeric Bearings: an Overview" (1992). *ACI, Concrete International, Design and Construction*, 14(1), Jan., pp. 41-46.
- Stanton, J.F., (1992). "Response of Hollow-Core Slab Floors to Concentrated Loads". *PCI Jo.*, 37(4), July-Aug., pp. 98-113.
- Stone, W.C., Cheok, G.S., and Stanton, J.F. (1995), "Beam-Column Connections Subjected to Cyclic Loads". *ACI Str. Jo.*, Vol. 92(2), March-April, pp. 229-249.
- Roeder, C.W., Stanton, J.F. and Campbell, T.I. (1996). "Rotation of High Load Multi-Rotational Bridge Bearings". *ASCE Jo. Str. Eng.*, 121(4), April.
- Trochalakis, P., Eberhard, M.O. and Stanton, J.F., (1997). "Design of Seismic Restrainers for In-Span Hinges". *ASCE Jo. Str. Eng.*, 123(4) Apr. 469-478.
- Stanton, J.F., Stone, W.C. and Cheok, G.S. (1997). "A Hybrid Reinforced Precast Frame for Seismic Regions". *PCI Jo.* 42(4), March-April, 20-33.
- Swett, G.D., Stanton, J.F. and Dunston, P.S. (1999). "Methods for Controlling Stresses and Distortions in Stage-Constructed Steel Bridges". *Transportation Research Record*, Feb.
- Nakaki, S.D., Stanton, J.F. and Sritharan, S. (1999). "An Overview of the PRESSSS Five Story Precast Test Building". *PCI Jo.* 44(2), March-April, 26-39.
- Stanton, J.F. Eberhard, M.O. and Barr, P. (1999). "Measurements of High Strength HPC Bridge Girder Behavior". *High Performance Concrete: Research to Practice, ACI SP 189*, ACI SP-189. pp. 71-92.
- Wood, S.L. Stanton, J.F. and Hawkins, N.M. (2000). "Development of new Seismic Design Provisions for Diaphragms Based on the Observed Behavior of Precast Concrete Parking Garages During the 1994 Northridge Earthquake". *PCI Jo.* June-July.
- Barr, P.J., Eberhard, M.O. and Stanton, J.F. (2000). "Live Load Distribution Factors in Prestressed Concrete Girder Bridges". Accepted by *ASCE Jo. Bridge Eng.*

Raynor, D.J., Lehman, D.L. and Stanton, J.F. (2002). "Bond-Slip Response of Reinforcing Bars Grouted in Ducts". To appear in *ACI Structural Journal*. Sept 2002

Walker, S.G., Yeargin, C.M., Lehman, D.E. and Stanton, J.F. (2002). "Seismic performance of Reinforced Concrete Beam-Column Joints without Joint Reinforcement". Accepted by *ACI Structural Journal*, 2002.

Stanton, J.F., Eberhard, M.O. and Barr, P.B. (2002). "A Weighted Stretched Wire System for Monitoring Deflections". Submitted (21 Dec 2001) to *Engineering Structures*.

#### **4.2 Non-Refereed Journal Articles.**

Eberhard, M.O. and Stanton, J.F. (1997) "Proportioning Abutment Seats to Prevent Span Unseating". *Earthquake Engineering Research Center News*, 18(4), Oct., UC Berkeley, pp. 7-9.

#### **5. Fully-Refereed Conference Proceedings**

Gergely, P., Stanton, J. F., and White, R. N., (1975). "Behavior of Cracked Concrete Nuclear Containment Vessels during Earthquakes," *U.S. National Conference on Earthquake Engineering*, Ann Arbor, MI, pp. 512-518.

McNiven, H. D. and Stanton, J. F., (1978). "A Model for Predicting the Non-linear Flexural Response of Reinforced Concrete Members to Seismic Forces," *Proceedings of the Sixth European Conference on Earthquake Engineering*, paper 2-37, vol. 2, pp. 271-280, Dubrovnic, Yugoslavia, Sept. 18-22.

Stanton, J. F., (1980). "Identification of Parameters in an Analytical Model for Reinforced Concrete Subject to Cyclic Loads," *Seventh World Conference on Earthquake Engineering*, vol. 6, pp. 25-32, Istanbul.

Roeder, C. W., Stanton, J. F., and Hawkins, N., (1980). "Seismic Considerations for the Rehabilitation of the Olympic Hotel, Seattle, WA, ", *Building Rehabilitation Research and Technology for the 1980's*, NCSBCS, Kendall/Hunt Publishing Co., Dubuque, IA.

Roeder, C.W. and Stanton, J.F., (1981). "Elastomeric Bearings: Problems in Current United States Practice," *Joint Sealing and Bearing Systems for Structures, ACI SP-94* , vol.1, pp. 279-296.

Stanton, J. F., Pizzano, B. A. and Apolis, J. S., (1984). "Lateral Load Tests on Prestressed Concrete Piles," *Eighth World Conference on Earthquake Engineering*, San Francisco, Vol. VI, pp. 749-756.

Roeder, C. W., Stanton, J. F., and Taylor, A. W., (1986). "Failure Modes of Elastomeric Bearings and the Influence of Manufacturing Methods," *ACI SP-94*, Vol. 1, pp. 279-296, Sept.

Stanton, J. F., (1986) "Design Considerations for Prestressed Concrete Piles" . *US-Japan Preseminar Specialty Conference on Precast Concrete Construction in Seismic Zones*, Tokyo, Oct. 27-28.

Roeder, C.W. and Stanton, J.F. and Campbell, T.I., (1991). "Behavior of High Load Multirotational Bearings". ACI, Third World Congress on Joint Sealing and Bearings, Toronto, Oct.

Stanton, J.F., Purkiss, C., and Roeder, C.W. (1991)."Development of Bridge Bearing Provisions for Recommended AASHTO LRFD Bridge Specifications". ACI, Third World Congress on Joint Sealing and Bearings, Toronto, Oct.

Campbell. T.I., Pucchio, J.B., Roeder, C.W. and Stanton. J.F., (1991). "Frictional Characteristics of PTFE Slide Surfaces used in Bridge Bearings". ACI, Third World Congress on Joint Sealing and Bearings, Toronto, Oct.

Stanton, J.F., Hawkins, N.M., and Eberhard, M.O., (1992). "Seismic Connections for Precast Concrete Structures". 10 WCEE, Madrid, Spain, July, pp. 4403-4408.

Stanton, J.F. "Hybrid Moment Resisting Precast Beam-Column Connections". (1996). *Worldwide Advances in Structural Concrete and Masonry*, (A.E. Schultz and S.L. McCabe eds.), Proceedings of the CCMS Symposium held with Structures Congress XIV, Chicago Ill, 15-18 April, pp. 266-277

Stanton, J.F. ( 1996) "Hybrid Moment Resisting Precast Beam-Column Connections". *Worldwide Advance in Structural Concrete and Masonry*, (A.E. Schultz and S.L. McCabe eds.), Proceedings of the CCMS Symposium held in Conjunction with Structures Congress XIV, Chicago Ill, 15-18 April, pp. 266-277.

Wood, Stanton, J.F. and Hawkins, N.M. (1996). "Response of Precast Concrete Parking Garages to the 1994 Northridge Earthquake". 11th WCEE, Acapulco, Mexico, July. (Proceedings on CD ROM only).

MacRae, G.A., Stanton. J.F., Noshio, K.J and Myojo, T. (1997). "Carbon Fiber Retrofit of Rectangular RC Gravity Columns in Seismic Regions". Third International Symposium on Non-Metalliic (FRP) Reinforcement for Concrete Structures, Sapporo, Japan, 14-16 Oct.

Stanton, J.F., Eberhard, M.O., Barr, P. and Fekete, E.A (1997). "Evaluation of Long Term behavior of High Performance Prestressed Concrete Girders". Proceedings, PCI/FHWA International Symposium on High Performance Concrete, New Orleans, LA, Oct, 11 pp.

Bjornsson, S., Stanton. J.F., and Eberhard, M.O. (1998). "Seismic Response of Skew Bridges". 6th US National Conference on Earthquake Engineering, Seattle, WA, 31 May - 3 June.

Hudgings, T., Eberhard, M.O. , and Stanton. J.F. (1998). "Design of Seismic Restrainers for In-Span Hinges.". 6th US National Conference on Earthquake Engineering, Seattle, WA, 31 May - 3 June.

Nosho, K.J., MacRae, G.A. and Stanton, J.F. (1998). "Performance of Reinforced Concrete Columns Retrofitted with Carbon Fiber Reinforcement". 6th US National Conference on Earthquake Engineering, Seattle, WA, 31 May - 3 June.

Stanton, J.F., Owen, L.O. and MacRae, G.A. (1998). "Stress-Strain Properties of Fiber-confined Concrete". 6th US National Conference on Earthquake Engineering, Seattle, WA, 31 May - 3 June.

Stanton, J.F. (1998). "The 1997 AASHTO Seismic Isolation Design Specification". US-Italy Workshop on Seismic Protective Systems for Bridges". Columbia University, New York.

MacRae, G.A., Stanton, J.F. and Kim, J. (1999). "Design Issues for FRP Jacketed Concrete Columns". ASCE Specialty Materials Conference, Cincinnati, May.

Stanton, J.F., Collins, R.I., Galusha, J., and Nakaki, S.D. "Design of the Five Story PRESS Building". 12<sup>th</sup> World Conference on Earthquake Engineering, Auckland, New Zealand, Jan-Feb 2000.

Lehman, D.E., Stanton, J.F., Walker, S.G., and Yeargin, C.M. (2002). "Performance based Seismic Evaluation of Existing Joints". Session 12, ST-4b, EERI, 7NCEE, Boston, 21-25 July.

Kim, J., Stanton, J.F., and MacRae, G.A.(2002). "Effects of Beam Growth on the Behavior of Reinforced Concrete Frames". Session 18, ST-5c. EERI, 7NCEE, Boston, 21-25 July.

Stanton, J.F., and Galusha, J.G.(2002). "Precast Concrete Walls Designed for Seismic Resistance". Session 31, ST-8f. EERI, 7NCEE, Boston, 21-25 July.

## **6. Abstract and Non-Refereed Conference Proceedings and Other Non-Journal Articles**

Hawkins, N. M. and Stanton, J. F., (1981). "Building Rehabilitation Strategies in Seattle, WA," *U.S.-P.R.C. Workshop on Building Rehabilitation*, Beijing, PRC, Nov. 1-7.

Tao, X., Stanton, J. F., and Hawkins, N. M., (1983). "Prediction of the Response of Prestressed Concrete Piles to Seismic Loading," *U.S.-Bulgaria Joint Workshop on Earthquake Engineering*, Sophia, Oct.

Stanton, J. F., (1986). "Behavior of Hollow-Core Concrete Floors Subjected to Concentrated Loads," *US-Japan Seminar on Precast Concrete Construction in Seismic Zones*, Tokyo, Sept-Oct.

Roeder, C.W. and Stanton, J.F. and Campbell, T.I. (1992). "Low Temperature Behavior of Bridge Bearings". 8th US Japan Bridge Engineering Workshop, Chicago, 11-12 May.

Hawkins, N.M, Wood, S.L. and Stanton, J.F. (1995). "Performance of Parking Garages in the 1994 Northridge Earthquake". ASCE Structures Congress XIII, Boston, MA, 2-5 April.

Wood, S.L., Stanton, J.F. and Hawkins, N.M. (1995). "Evaluation of Two Parking Garages Damaged During the 1994 Northridge Earthquake". NSF Natural Hazards Grantees Workshop, Lake Tahoe, Nevada, 25 April.

Stanton, J.F. (1996). "The 1997 AASHTO Seismic Isolation Guide Specification". Fourth World Congress on Joints and Bearings, Sacramento, Sept.

Eberhard, M.O., Stanton, J.F., and Trochalakis, P. (1996). "Design of Seismic Restrainers". Proc. 4<sup>th</sup> Workshop on Bridge Research in Progress, Buffalo, NY, June, pp 281-286.

## **7. Books and Committee Reports**

Roeder, C.W. and Stanton, J.F. (1997). "Steel Bridge Bearing Selection and Design Guide". National Steel Bridge Alliance, Highway Structures Design Handbook, Vol. II, Ch 4, AISI, Washington DC. ACI Innovation Task Group ITG1. "Acceptance Criteria for Moment Frames Based on Structural Testing". ACI Committee 550. "Design Recommendations for Precast Concrete Structures".

## **8. Editing and Other Scholarly Papers.**

None

## **9. Sponsored Research. (Funded, unless noted otherwise).**

1978-79. "Prestressed Concrete Floors with Drop Panels."  
Graduate School Research Fund. \$5,000. P.I.

1980-82 "Strategies for Restoring Older Buildings in Seismic Regions."  
NSF, \$78,000. Joint P.I. with N. M. Hawkins and F. Nyberg

1981-81 "Workshop on Seismic Retrofitting of Buildings in the Puget Sound Area." NSF.  
\$36,000. Joint P.I. with N. M. Hawkins and P. Burke

1981-82 "Elastomeric Bearings: Design Construction and Materials," Phase I.  
NCHRP. \$75,000. Joint P.I. with C. W. Roeder

1981-82 "Performance of Prestressed Concrete Piles in Earthquake Regions."  
NSF. \$75,000. P.I.

1983-86 "Elastomeric Bearings: Design construction and Materials," Phase II.  
NCHRP \$150,000. Joint P.I. with C. W. Roeder

- 1983-85 "Design of Multibeam Precast Bridge Superstructures."  
NCHRP \$150,000. Joint P.I. with A. H. Mattock
- 1983-83 "Lateral Distribution of Loads on Precast Concrete Decks."  
PCI. \$30,000. P.I.
- 1983-84 "Testing of Full Sized R/C Beam Column Joint."  
Baugh Construction \$30,000. Joint P.I. with N. M. Hawkins
- 1984-85 "Shaking Table Tests on Piles."  
WSDOT/TRAC \$45,000. P.I.
- 1985-87 "Evaluation of Seismic Base Isolation Systems."  
NSF. \$114,000. Joint P.I. with C. W. Roeder
- 1986-89 "Elastomeric Bearings, Phase III."  
NCHRP. \$150,000. Joint P.I. with C. W. Roeder.
- 1989 "Constructible Details for Concrete Columns".  
Baugh Construction. \$5000. PI.
- 1989-92 "High Load Multirotational Bearings."  
NCHRP \$250,000 Joint PI with C. W. Roeder
- 1989-92 "Precast Seismic Structural Systems".  
NSF \$146,000 Joint PI with N. M. Hawkins
- 1990-91 "Stability of Elastomeric Isolation Systems."  
NCEER, \$40,000, PI.
- 1993-94 "Development of an LRFD Specification for Bridge Bearings"  
NCHRP 12-23 \$15,000 Joint PI with C. W. Roeder
- 1991-92 "Equipment for Dynamic Experiments".  
NSF \$155,000 (total) PI. With other SAGEM faculty.
- 1992-94 "Analytical Modeling of ductile Beam-Column Connections".  
NSF \$15,000. PI.
- 1991-92 "Lateral torsional Buckling of Long Prestressed Concrete Girders".  
PCI. \$8,000 (Research Fellowship) PI.

- 1992-3 "Shear Performance of Fiber Reinforced Concrete Decks".  
W.R. Grace Co. \$12,000. PI.
1993. "Development of ASD Design Specifications for Bridge Bearings".  
NCHRP 10-20A extension. \$15,000 PI with CW Roeder.
- 1993 "Review of AASHTO Bridge Bearing Specifications".  
AISII 1993. \$10,000. PI with C.W. Roeder.
- 1994 "Seismically Instrumented Buildings."  
City of Tacoma, 1994. \$20,000, PI.
- 1994-95 "Study of Damage to Parking Garages in LA"  
NSF/PCI/PCA. \$60,000. PI with Hawkins, Wood.
- 1994 "Ductility of Gravity Columns"  
NSF. 1994 \$65,000. PI
- 1994-95 "Seismic Bridge Restrainers"  
WSDOT. \$60,000. Co- PI with Eberhard.
- 1995-6 "Constructibility Review Process".  
WSDOT, \$60,000. Co- PI with McManus, Turkiyyah.
- 1995-6 "Long Term Behavior of a High-Performance Concrete Bridge".  
WSDOT/FHWA , \$235,000. Co- PI with Eberhard.
- 1996 "Retrofit of Poorly Confined Concrete Columns using Carbon Fiber".  
Tonen Corp. \$78,000, Co-PI with MacRae.
1996. "Shear Strength of RC Beams Reinforced with Carbon Fiber".  
Tonen Corp. \$5,000, Co-PI with MacRae.
- 1997-00 "Instrumentation for Structural and Geotechnical Experiments".  
NSF. \$906,000. PI, with other SGEM faculty.
- 1997-00 "PRESSS Phase III Design Studies."  
NSF. \$95,000. PI.
- 1997-00 "Shear Strength of Short, Fiber-wrapped Concrete Columns".  
NSF. \$298,000. PI. (Denied).

- 1998-00 "Innovate strategies for mitigating seismic hazards in non-ductile concrete frames". PEER Center. \$150,000. PI, with Eberhard.
- 1998-00 "Effects of Long-Duration Earthquake Motions on Bridges". PEER Center. (\$160,000). co-PI, with Eberhard.
- 1998-99 "Live load Testing of a High Performance Concrete Bridge". With Eberhard. WSDOT \$55,000. PI, with Eberhard.
- 1998-99 "An Experimental Investigation of Hybrid Frames". PI. Charles Pankow Builders Ltd. \$95,000 + overhead.
- 1998-99 "Experiments on Corner Hybrid Frames". PI, Charles Pankow Builders Ltd. \$38,000 + overhead.
- 1999- "Debonding of Bars Grouted in Ducts and Subjected to Cyclic Load Reversals." PI. Charles Pankow Builders Ltd. \$40,000 + overhead.
- 1999- "Behavior of Steel-Foam Composite Wall Panels under Seismic Loading". \$86,000 + Overhead. PI. Leading Edge Earth Products.
- 1999 - "Evaluation of Elastomeric Bridge Bearings". PI, With Roeder. AISI, \$30,000,(Pending)
- 1999- "Experimental Evaluation of Foam-Cored Plywood Shear Walls Subjected to Cyclic Loading". PI, with Lehman, D.H.Brown Engineers. \$58,000. (Pending).
- 1999 - 00 "Evaluation and Design of a Sandwich Wall Panel Building System". PI. Leading Edge Earth Products. \$80,000 plus overhead. (Funded).
- 1999- 00 PEER (Pacific Earthquake Engineering Center/NSF). "Performance of Existing and Retrofitted Beam-Column Joints". \$230,000, PI, with D.E. Lehman. (Funded).
- 1999- 00 PEER (Pacific Earthquake Engineering Center/NSF Influence of Long Duration Earthquakes on Expected Performance". \$145,000, PI with M.O. Eberhard and P. Arduino. (Funded).
- 1999- 00 PEER (Pacific Earthquake Engineering Center/NSF). "Performance Objectives for Buildings - Engineering Component". \$191,000, PI with D.E. Lehman. (Project approved on merit, but funding denied because the UW had been too successful in winning research from PEER).
- 2001-02 WSDOT "Assessment and Retrofit of Outrigger Bents". \$140,00. With Lehman.
- 2002-2004 NSF/NEES. "A Tomography Facility for Structural and Geotechnical Earthquake Simulation". \$3.5m. Co-PI. Roeder = PI. Denied.

NSF 2002-04. "The Development of Tools and Technologies for Performance based Design of Reinforced Concrete Beam-Column Building Joints." Co-PI with Lowes and Lehman. Pending.

NSF 2002-04. "A New Approach to Reinforced Concrete Coupled Shear Walls". PI. \$267,000..

#### **10. Project Reports (reports to sponsors).**

Stanton, J. F. and McNiven, H. D., (1979) "The Development of a Mathematical Model to Predict the Flexural Response of Reinforced Concrete Beams to Cyclic Loads, Using System Identification," *EERC report no 79-2*, University of California, Berkeley, Jan.

Su, T. L., Stanton, J. F., and Hawkins, N. M., (1979) "Reinforcing Bars Under Inelastic Cyclic Loading," *Report No. SM 79-2*, University of Washington, Dept. of Civil Engineering, Oct.

Anderson, R. G., Stanton, J. F., and Jobse, H. J., (1981) "Untopped Flange-Supported Tees," *Technical Bulletin 80 B1*, Concrete Technology Associates, Tacoma, Washington, Jan.

Stanton, J. F. and Roeder, C. W., (1982) "Elastomeric Bearings - Design, Construction and Materials." *NCHRP Report No. 248*, September.

Stanton, J.F., "Distribution of Vertical Load". (1983) *Technical Bulletin 801B5*, Concrete Technology Associates, Tacoma, Washington, May.

Ishizuka, T., Hawkins, N. M., and Stanton, J. F., (1984) "Experimental Study of the Seismic Resistance of a concrete Exterior Column Beam Sub-assembly Containing Unbonded Post-Tensioning Tendons," *Dept. of Civil Engineering*, University of Washington, May.

Stanton, J. F., Dolan, C. W., Anderson, R. G. and McCleary, D. E., (1985) "Moment Resistant connections, Simple Connections" *Final Report, PCI specialty Funded Research Projects 1 and 4*, PCI, Chicago, Dec.

Stanton, J. F., "Distribution of Vertical Loads in Precast Concrete Decks" (1986) *Final Report, PCI*, Chicago, Jan.

Stanton, J. F. and Mattock, A. H., "Design of Multibeam Bridge Superstructures" (1986) *NCHRP Report No. 287*, Washington D.C. March.

Roeder, C. W., Stanton, J. F., and Taylor, A. W., (1987) "Performance of Elastomeric Bearings," *NCHRP Report 298*, National Research Council, Washington, D.C.

Stanton, J. F., Banerjee, S. and Hasayen, I., "Shaking Table Tests on Piles." (1988) *Final Report to WSDOT, Report No. WA-RD 158.1.*

Roeder, C. W., and Stanton, J. F., (1989) "Pot Bearings and P.T.F.E. Sliding Surfaces: A State of the Art Report." *Interim Report to NCHRP, May.*

Pot Bearings and PTFE Surfaces, (1989)" *NCHRP Research Results Digest*, No. 171, September.

Stanton, J.F., and Bramhall, M.A., (1989) "Constructible Details for Reinforced Concrete Columns". *Report No. SM 89-1*, Dept. Civ. Eng., University of Washington, Seattle, Nov.

Roeder, C. W., Stanton, J. F. and Feller, T. (1989) "Low Temperature Behavior and Acceptance Criteria for Elastomeric Bridge Bearings," *NCHRP report no 325*, National Research Council, Washington D.C., Dec.

Stanton, J. F., Roeder, C. W. and Campbell, I., (1990) "Research Recommendations for a Bearing Selection Guide and a Design Specification for Multi-Rotational Bridge Bearings," *NCHRP 10-20/A Interim Report*, Feb.

Stanton, J.F., Heit, D. and Jeter, D., (1990) "Behavior of Fiberglass-Resin Reinforced Struts". *Final Report* to FMIC/FOH, March.

Stanton, J.F.,(1990) "Pullout Strength of Plastic Struts Embedded in Concrete". *Final Report* to Aickinstrut Co., Seattle, Nov.

Stanton, J.F., and Nakaki, S.D. ( 1991) "PRESSSS Industry Seismic Workshops". UCSD/AMES Report no 91/02, Sept.

Stanton, J.F., ( 1991) "Development of Design Criteria for Connections for Fiberglass Channel Struts". *Final Report* to Aickinstrut Co, Seattle, Sept.

Stanton, J.F. and Blake, J.B. (1992) "Performance of Vibrating Element Strain Gages Embedded in Concrete". *Final Report* to Slope Indicator Co, Seattle WA, Feb.

Brown, C.B., Eberhard, M.O., Kramer, S.L., Roeder, C.W., and Stanton. J.F., "Preliminary Investigation of the Seismic Vulnerability of the Alaskan Way Viaduct". WSDOT Tech. Rep. WA-RD 265.1, Olympia, WA April, 84 p.

Roeder, C.W. and Stanton, J.F. (1994) "Research Needs for Bearings in Steel Bridges". *Final Report* to AISI, Jan.

- McManus, J., Philip, N., Stanton, J.F. and Turkiyyah, G.M. (1995). "A Framework for the Constructibility of Transportation Facilities". Interim Report to WSDOT, Research Project T9903, Task 34, May, 63 p.
- Trochalakis, P. Eberhard, M.O. and Stanton J.F. (1996). "Design of Seismic Restrainers for In-Span Hinges". Final Technical Report no. WA-RD 387.1, Washington State Department of Transportation, Olympia, WA. May, 73 p.
- Trochalakis, P. Eberhard, M.O. and Stanton J.F. (1996). "Unseating of Simply Supported Spans During Earthquakes". Final Technical Report no. WA-RD 387.2, Washington State Department of Transportation, Olympia, WA. May, 39 p.
- Bjornssen, S., Stanton, J.F., and Eberhard, M.O., (1997). "Seismic Behavior of Skewed Bridges," Department of Civil Engineering, Structural and Geotechnical Engineering and Mechanics Report SGEM 97-1, University of Washington, Seattle, Washington, June, 189 pp.
- Hudgings, T.R., Eberhard, M.O. and Stanton, J.F., (1997). "Design of Seismic Bridge Restrainers Considering Spatial Variation of Ground Motions". Department of Civil Engineering, Structural and Geotechnical Engineering and Mechanics Report SGEM 97-2, University of Washington, Seattle, Washington, June, 119 pp.
- Fekete, E., Barr, P., Stanton, J.F., Eberhard, M.O. and Janssen, D. (1998). "High Performance Concrete in Washington State SR 18/ SR 516 Overcrossing: Interim Report on Materials Tests". Washington State Department of Transportation WA-RD, Olympia, Washington, November, 71 pp.
- Barr, P., Fekete, E., Eberhard, M.O., Stanton, J.F, Khaleghi, B. and Hsieh, J.C. (1998). "High Performance Concrete in Washington State SR 18/ SR 516 Overcrossing: Interim Report on Girder Monitoring," Washington State Department of Transportation WA-RD, Olympia, Washington, November, 131 pp.
- Barr, P., Eberhard, M.O. and Stanton, J.F.. (1999). "Live Load Distribution Factors for Prestressed Concrete Bridges". Washington State Department of Transportation WA-RD, Olympia, Washington, November.
- Barr, P.J., Eberhard, M.O., Stanton, J.F., Khaleghi, B and Hsieh, J.C. (2000). "High Performance Concrete in Washington State SR18/SR516 Overcrossing. Final report on Girder Monitoring." WSDOT. Dec. 150 p.
- Barr, P.J., Fekete, E, Stanton, J.F. and Eberhard, M.O.(2000). "High Performance Concrete in Washington State SR18/SR516 Overcrossing. Final report on Materials Tests." WSDOT. Dec. 81 p.
- Day, S., MacRae, G.A. and Stanton, J.F. (2000),"Cyclic Load Testing of Precast Hybrid Frame Moment-Resisting Connections". Report to Charles Pankow Builders Ltd.

Stanton, John F. and Nakaki, S.D. (2002) "Design Guidelines for Precast Concrete Structural Systems". PRESSS Report No. 01/03-09. Also published as UW Civil Engineering Report no SM02-02.

Stanton, J.F., Eberhard, M.O. and Barr, P.B. (2001). "A Weighted Stretched Wire System for Monitoring Deflections". UW Civil Engineering Report no. SM01-02.

## **11. Other Research-Related Activities.**

**Patents:** None

### **Non-refereed papers:**

Hawkins, N. M. and Stanton, J. F., (1981). "Building Rehabilitation Strategies in Seattle, WA," *U.S.-P.R.C. Workshop on Building Rehabilitation*, Beijing, PRC, Nov. 1-7.

Tao, X., Stanton, J. F., and Hawkins, N. M., (1983) "Prediction of the Response of Prestressed Concrete Piles to Seismic Loading," *U.S.-Bulgaria Joint Workshop on Earthquake Engineering*, Sophia, Oct.

Stanton, J. F., Roeder, C. W. and Taylor, A. W., (1986) "Limits for Design of Elastomeric Bearings," *ASCE Spring Conference*, Seattle, WA, April.

Stanton, J. F., (1986) "Behavior of Prestressed Concrete Piles Subjected to Seismic Loading," Invited Paper, Session 45 ST, *ASCE Spring Conference*, Seattle, WA, April.

Stanton, J.F. and Roeder, C.W., (1990) "Bridge Bearing Performance and Type Selection" 7th Annual International Bridge Conference and Exhibition, Pittsburgh, June.

Stanton, J.F., Hawkins, N.M., Eberhard, M.O., and Hicks, T.R. (1990) "Connection Classification and Evaluation". *First Meeting of the US-Japan Joint Technical Co-ordinating Committee on Precast Structural Seismic Systems (JTTC-PRESSS)*, San Diego, CA, Nov 29-Dec 1.

Stanton, J.F., Hawkins, N.M., Eberhard, M.O., and Hicks, T.R. (1990) "Selection and Design of Rigid Connections". *First Meeting of the US-Japan Joint Technical Co-ordinating Committee on Precast Structural Seismic Systems (JTTC-PRESSS)*, San Diego, CA, Nov 29-Dec 1.

Hicks, T.R., Stanton, J.F., Hawkins, N.M., Eberhard, M.O., (1990) "Ductile Connections: Selection and Design". *First Meeting of the US-Japan Joint Technical Co-ordinating Committee on Precast Structural Seismic Systems (JTTC-PRESSS)*, San Diego, CA, Nov 29-Dec 1.

Stanton, J.F., "Load Distribution in Multibeam Precast Concrete Bridges". (1992) Presented to the Loads Committee, AASHTO Annual Meeting, Portland Maine, 18 May.

Roeder, C.W. and Stanton, J.F. and Campbell, T.I. (1992)"Low Temperature Behavior of Bridge Bearings". 8th US Japan Bridge Engineering Workshop, Chicago, 11-12 May.

Stanton, J.F. ( 1994) "Guidelines for Connections in Precast Concrete Structures". Technical Session: Recent Research in Precast Concrete in Seismic Zones, ACI Spring Convention, San Francisco, 21 March.

Cheok, G.S., Stanton, J.F., Stone, W.C and Seagren, D. ( 1994) "Hybrid Connections for Precast Concrete Seismic Structures". Technical Session: Recent Research in Precast Concrete in Seismic Zones, ACI Spring Convention, San Francisco, 21 March.

Hawkins, N.M, Wood, S.L. and Stanton, J.F. ( 1995) "Performance of Parking Garages in the 1994 Northridge Earthquake". ASCE Structures Congress XIII, Boston, MA, 2-5 April.

Wood, S.L., Stanton, J.F. and Hawkins, N.M. (1995) "Evaluation of Two Parking Garages Damaged During the 1994 Northridge Earthquake". NSF Natural Hazards Grantees Workshop, Lake Tahoe, Nevada, 25 April

Wood, Stanton, J.F. and Hawkins, N.M. (1996). "Response of Precast Concrete Parking Garages to the 1994 Northridge Earthquake". 11th WCEE, Acapulco, Mexico, July. (Proceedings on CD ROM only).

Stanton, J.F., MacRae G.A., and Nosh. K.J. ( 1996) "Seismic Retrofitting of Reinforced Concrete Columns Using Carbon Fiber Tow Sheet". ACI Fall Convention, No. 3-8,, New Orleans.

Wood, S.L., Stanton, J.F., and Hawkins, N.M. (1996) "Performance Of Precast Concrete Parking Garages under seismic Loading". PCI Fall Convention, Oct. , Orlando.

Eberhard, M.O., Stanton, J.F. and Trochalakis, P. (1996) "Design of Seismic Restrainers". Fourth National Workshop on Bridge Research in Progress, Buffalo, N.Y. 17-19 June.

Stanton, J.F. MacRae, GA. and Nosh, K.J. (1996) "Carbon Fiber Seismic Retrofit of Poorly Confined Square Columns Subjected to Large Axial Forces". Fourth National Workshop on Bridge Research in Progress, Buffalo, N.Y. 17-19 June, pp 263-268.

## **12. Invited Lectures and Seminars.**

Stanton, J. F., (1983). "Elastomeric Bearing Problems," Invited paper, *Northwest Bridge Seminar*, Oct.

- Stanton, J. F. (1988) "A View from the Bridge." (Invited) Keynote Speech, *Gordon Conference on Elastomers*, New London, NH, Aug.
- Stanton, J.F. (1991) "Design of Elastomeric Bridge Bearings". (Invited Paper). Malaysian Seminar on Natural Rubber in Engineering, Kuala Lumpur, Malaysia, Sept 9-10.
- Stanton, J.F. (1998). "The PRESSS Program in the USA and Japan - Seismic Testing of Precast Concrete Structures". Keynote Lecture, COST-C1 Conference on Connections. Liege, Belgium, 17-19 Sept.
- Stanton, J.F. (1999) "Reinforced Concrete Hybrid Moment Frames: Behavior and Design". Dept. of Civil Engineering, University of Canterbury, Christchurch, New Zealand. April.
- Priestley, M.J.N., Stanton, J.F., Sritharan, S. and Nakaki, S.E. (2000) "Design, Construction and Testing of the Five Story PRESSS Building". EERI, San Diego Chapter, Special meeting on the PRESSS project, San Diego, Sept.
- Stanton, J.F. (2000) "Design of the PRESSS Building". Institution of Professional Engineers of New Zealand, Auckland, New Zealand. Feb.
- Stanton, J.F. (2000) "Design and Testing of the PRESSS Building". Federation Internationale du Beton. Meeting of Commission 7 (Seismic), Queenstown, New Zealand. Feb.
- Stanton, J.F. (2000) "Split Precast Concrete Walls Designed to Rock". Dept. of Civil Engineering, University of Canterbury, Christchurch, New Zealand. April.
- Stanton, J.F. and Nakaki, S.D. (2000) "Design of the Five Story PRESSS Building". ACI Oregon Chapter, Conference on Advancements in Concrete Technology, Portland, May.
- Stanton, J.F. (2000) "PRESSS (Precast Seismic Structural Systems) Report". Annual Meeting of ACI ConRef Strategic Development Council, Atlanta, GA.
- Stanton, J.F. (2000) "Design Guidelines for the PRESSS Building Systems". Structural Engineers' Association of Washington, Eastern Chapter, Spokane. March.
- Stanton, J.F. (2000) "Precast Concrete Frame Joinery". University of Kansas Annual Structural Engineering Conference. Lawrence, KS. March.
- Stanton, J.F. (2000) "Precast Concrete Systems that work in All Seismic Zones". University of Illinois Annual Structural Engineering Conference. Urbana-Champaign, IL April.
- Stanton, J.F. and Nakaki, S.D. (2000) "Design Guidelines for the PRESSS Building Systems". Structural Engineers' Association of Southern California, Los Angeles. April.

Stanton, J.F. and Nakaki, S.D. (2000) "Design Guidelines for the PRESSS Building Systems". Structural Engineers' Association of Washington, Sea-Tac. April.

Stanton, J.F. and Nakaki, S.D. (2000) "Design Guidelines for the PRESSS Building Systems". PCI Committee Days, Chicago, April.

### **13. Presentations Given at Conferences**

Stanton, J. F., (1977). "A Critical Review of Current Research at the Earthquake Engineering Research Center, Berkeley," *Proceedings of the Acoustical Society of America, Annual Conference*, Miami, Dec.

Stanton, J. F. and Roeder, C. W., (1981). "A New Look at Bearing Pads for Buildings and Bridges," Session 6, *PCI Annual Convention*, Los Angeles, October, (invited paper).

Stanton, J. F. and Roeder, C. W., (1982). "Elastomeric Bearings - Whence, Where and Whither," *T. R. B. Annual Meeting*, Session 28, Washington, D.C., 18 Jan.

Stanton, J. F. and Roeder, C. W., "Elastomeric Bearings," (1982). *AASHTO Region II Meeting*, Hilton Head, South Carolina, April.

Stanton, J. F. and Roeder, C. W., "Elastomeric Bearings," (1982). *AASHTO Region III Meeting*, Ann Arbor, MI May.

Stanton, J. F. and Brauner, H. (1985). "Design of Prestressed Concrete Piles for Seismic Environments" *ASCE Conference*, San Francisco.

Stanton, J. F., (1986). "Behavior of Prestressed Concrete Piles Subjected to Seismic Loading," Session 45 ST, *ASCE Spring Conference*, Seattle, WA, April.

Stanton, J. F., (1986). "Prestressed Concrete for Seismic Frames," *EERI Annual Meeting*, San Francisco, CA, Feb.

Hawkins, N. M., Stanton, J. F., and Ishizuka, T., (1986). "Unbonded Post-Tensioned Steel in Seismic Frames," *ASCE Structures Congress*, New Orleans, Sept.

Stanton, J. F., Roeder, C. W. and Taylor, A. W., (1986). "Limits for Design of Elastomeric Bearings," Invited Paper, *ASCE Spring Conference*, Seattle, WA, April.

- Stanton, J. F. (1987). "Analysis of Multibeam Bridge Decks Subjected to Wheel Loads" *T.R.B. Conference*, Washington, DC, Jan.
- Stanton, J. F., (1988). "Seismic Resistance of Prestressed Concrete Piles. " Invited paper, *PCI Annual Convention*, Las Vegas, Nevada, Oct.
- Stanton, J.F. and Roeder, C.W., (1989). "Pot Bearings". *TRB Annual Conference*, Washington DC, Jan.
- Roeder, C.W. and Stanton, J.F. and Campbell, T.I. (1990). "Bridge Bearings". 2nd National Conference on Bridge Engineering Research in Progress, Reno, NE, Oct.
- Stanton, J.F. (1991). "Design of Elastomeric Bridge Bearings". (Invited Paper). Malaysian Seminar on Natural Rubber in Engineering, Kuala Lumpur, Malaysia, Sept 9-10.
- Stanton, J.F. (1993). "PRESSS Connection Manual". *PCI Committee Days*, Chicago, Apr. 1993.
- Cheok, G.S. and Stanton. J.F. (1994). "A New Hybrid Frame Connection for Precast Concrete Structures in Seismic Zone 4". Invited Presentation to ACI Committee 318, ACI Spring Convention, San Francisco, 21 March.
- Stanton. J.F. (1994). "Guidelines for Connections in Precast Concrete Structures". In: Recent Research in Precast Concrete in Seismic Zones, ACI Spring Convention, San Francisco, 21 March.
- Cheok, G.S., Stanton. J.F., Stone, W.C and Seagren, D. (1994). "Hybrid Connections for Precast Concrete Seismic Structures". Technical Session: Recent Research in Precast Concrete in Seismic Zones, ACI Spring Convention, San Francisco, 21 March.
- Wood. S.L., Hawkins, N.M. and Stanton, J.F. (1995). "Shear Strength Evaluation of Inverted Tee Beams (with Particular Reference to the Northridge Earthquake). PCI Fall Convention, Reno, Oct 15-18.
- Stanton. J.F., Eberhard, M.O. and Trochalakis, P. (1995). "Effectiveness and Design of Seismic Restrainers". ACI Fall Convention, Montreal, 8 Nov.
- Eberhard, M.O., Stanton, J.F. and Trochalakis, P. (1996). "Design of Seismic Restrainers". Fourth National Workshop on Bridge Research in Progress, Buffalo, N.Y. 17-19 June.
- Stanton, J.F. MacRae, GA. and Nosh, K.J. (1996). "Carbon Fiber Seismic Retrofit of Poorly Confined Square Columns Subjected to Large Axial Forces". Fourth National Workshop on Bridge Research in Progress, Buffalo, N.Y. 17-19 June, pp 263-268.
- Stanton, J.F., MacRae G.A., and Nosh. K.J. (1996). "Seismic Retrofitting of Reinforced Concrete Columns Using Carbon Fiber Tow Sheet". ACI Fall Convention, No. 3-8, New Orleans.

Wood, S.L., Stanton, J.F., and Hawkins, N.M. (1996). "Performance Of Precast Concrete Parking Garages under seismic Loading". PCI Fall Convention, Oct., Orlando.

Stanton, J.F.(1999). "Rules for Acceptance Testing and Criteria for Reinforced Concrete Moment Frames". FIB Seismic Commission, Kyoto, Japan, April.

Stanton, J.F.(1999) "Behavior of Hybrid Concrete Moment Frames". FIB Seismic Commission, Kyoto, Japan, April.

Stanton, J.F. and Nakaki, S.D. (2000) "Design of the Five Story PRESSS Building". PCI Convention, Orlando, FL, Sept.

#### **14. Professional Licenses**

PE, State of Washington. License #20,004.

#### **15. Professional Society Memberships**

Fellow, American Concrete Institute (1997-present)  
 Member, American Society of Civil Engineers (1978-present)  
 Member, Earthquake Engineering Research Institute (1986)  
 Member, Institution of Civil Engineers, UK (1970)  
 Member, Prestressed/Precast Concrete Institute (1992)  
 Member, Structural Engineers Association of Washington (1990)

#### **16. Professional Society and Other Service**

Member ACI Committee 318E, Shear and Torsion (2002-present)  
 Member ACI Committee 318 Task Group TN (2002-present)  
 Member ACI Committee 442, Lateral Loads (1995-1997). (Committee now disbanded).  
 Member ACI Committee 550, Precast Concrete (1986-present)  
 Member ACI Committee 554, Bearing Systems (1984-present)  
 Co-chair of Technical Prog. Committee for 6th US Nat. Conf. on Earthquake Eng. (1998)  
 Member PCI Seismic Committee.  
 Co-Chair PCI Seismic Connections Subcommittee, report author.  
 Member TRB Committee A2C03, Concrete Bridges (1985-present)  
 Member AASHTO Subcommittee T3 to rewrite Seismic Isolation Guide Spec.  
 Member, ACI/CONREF Innovative Technology Task Group 1, defining acceptance criteria for non-code-complying structural systems.  
 Member ASTM Committee DO434, Elastomeric Bearings (1984-present)  
 Member, Working Group 3, Precast Concrete, FIB Commission 7, Seismic Design.

Member, Working Group 4, Prestressed Concrete, FIB Commission 7, Seismic Design.  
 Conference Session Chair: Several, but details not recorded.

## **17. Reviews Made**

*Papers reviews (numbers not recorded):*

ASCE Journal of Structural Engineering  
 ASCE Journal of Engineering Mechanics  
 ASCE Specialty conferences  
 ACI Structural Journal  
 EERI Spectra  
 PCI Journal  
 Earthquake Engineering and Structural Dynamics.  
 Transportation Research Record  
 NIST reports  
 NCEER reports  
 UW Royalty Research Fund

*Report Reviews:*

NCEER (National Center for Earthquake Engineering Research - Buffalo)  
 (3 in 1998, 3 in 1999, 1 in 2000)

*Book reviews*

Reinforced Concrete Texts  
 Prestressed Concrete Texts

*Proposal Reviews:*

Louisiana DOT  
 NSF  
 PEER  
 USGS

*External PhD Examiner*

University of Canterbury, NZ. (1 in 1999, 5 in 2000)

## **18. Awards and Honors**

University Fellowship, U. of CA 1976-1978  
 Tau Beta Pi Honorary Society, U. of WA  
 Professor of the Year (Senior Class), U. of WA 1987-88  
 ASCE T. Y. Lin Award, 1988  
 ACI Structural Research Prize Spring 1997  
 Fellow of ACI, Spring 1997  
 Erskine Fellow, U. of Canterbury, New Zealand, 1999 – 2000.

### **19. Teaching (last 6 years)**

Quarter	Course #	Course Name	# students	ave lines(1-4)
Au 95	CIVE 452	Reinforced Concrete Design	31	4.15
Wi 96	CIVE 453	Prestressed Concrete	14	5.0*
Sp 96	CESM 512	Adv. Prestressed Concrete	9	4.45
Sp 96	CIVE 381	Intro to Str. Design	51	
Su 96	CIVE 452	Reinforced Concrete Design	11	3.85 (Form B)
Au 96	CESM 511	Adv. Reinforced Concrete	19	
Wi 97	CIVE 453	Prestressed Concrete	31	
Wi 97	CIVE 381	Intro to Str. Design	51	3.2 (Form B)
Sp 97	CESM 512	Adv. Prestressed Concrete	15	
Au 97	CESM 511	Adv. Reinforced Concrete	20	
Wi 98	CIVE 381	Intro to Str. Design	39	3.12 (Form B)
Wi 98	CIVE 442	Struct. Design Project (with Holtz)	26	
Sp 98	CESM 512	Adv. Prestressed Concrete		
Sp 98	CIVE 442	Struct. Design Project (with Holtz)		
Au 98	CESM 511	Adv. Reinforced Concrete		
Wi 99	CIVE 381	Intro to Str. Design		
Wi 99	CIVE 442	Struct. Design Project (with Kramer)		
Sp 99	CESM 512	Adv. Prestressed Concrete		
Sp 99	CIVE 442	Struct. Design Project (with Kramer)		
Au 99	(-)	Sabbatical leave		(-)
Wi 00	ENCI 650	Advanced Prestressed Concrete (NZ)	11	(-)
Sp 00	(-)	Sabbatical leave		

Au 00	CEE511	Advanced Reinforced Concrete	11	
Wi 01	CEE220	Mechanics of Materials	79	3.84
Wi 01	CEE 500	Seminar (Structures)	9	
Sp 01	CEE 512	Advanced Structural Systems	7	NA
Sp 01	CEE 500	Seminar (Structures)	9	

## **20. Short Courses, Workshops, and Other Educational Programs**

Taught (with others) short courses for SEAW, PE license, PEPL seismic classes.  
 Attended CE Dept Teaching workshop, Spring 2001.

## **21. Chaired Doctoral Degrees**

Sherry Yin. 1997. KPFF Engineers Portland, OR. (Ms Yin started as Prof. Hawkins' student and conducted her research under him. I only completed the advising after Hawkins had left and during the time that Ms. Yin finished writing her thesis).

Paul Barr. 2000

Jubum Kim In progress.

## **22. Chaired Masters Degrees**

A. Hajj, 1979 (MSCE Non-thesis) "Reinforced Concrete Members in Combined Tension and Bending"

J. C. Davis, 1979, (MSCE Non-thesis) "Analysis of Prestressed Concrete Floors with Drop Panels"

M. A. Aminpour, 1980 (MSCE Non-thesis) "Improved Estimates for Buckling Loads Using Chebychev Acceleration"

S. Demetriou, 1982 (MSCE Thesis) "Elastomeric Bearings"

S. Askarian, 1982 (MSCE Non-thesis) "Elastic Buckling Loads for Uniformly Tapered Columns with Variable End Fixity"

J. K. Nelson, 1982 (MSCE Thesis) "A Study of Prestressed Double Tees Subjected to Point Loads"

B. A. Pizzano, 1983 (MSCE Thesis) "Behavior of Prestressed Concrete Piles Under Seismic Loading"

B. K. Wong, 1984 (MSCE Thesis) "Experiments on Elastomeric Bearings"

F. Chouery, 1984 (MSCE Thesis) "Elastic Stresses in a Flexibly Restrained Soil Mass"

R. Strome, 1984 (MSCE Non-thesis) "Analysis of Unbonded Tendon Systems"

K. Olson, 1984 (MSCE Non-thesis) "Pot Bearings"

- G. England, 1985 (MSCE Non-thesis) "Testing and Analysis of a Floating Breakwater"
- H. Oskarssen, 1985 (MSCE Thesis) "Analysis of Multibeam Deck Systems"
- I. Khatib, 1985 (MSCE Non-thesis) "Failure of Prestressed Concrete Walls"
- J. Lockwood, 1986 (MSCE Thesis) "Analysis of Forces in Cable-Stayed Bridges During Construction"
- G. Scroggins, 1986 (MSCE Thesis) "Stability of Elastomeric Bearings"
- K. Moen, 1986 (MSCE Thesis) "Seismic Base Isolation"
- M. Kim, 1986 (MSCE Non-thesis) "Mathematical Model to Predict the Flexural Response of Prestressed Concrete Sections to Cyclic Loading Using System Identification"
- C. S. Branlund, 1986 (MSCE Non-thesis) "Steel Plate Stresses in Reinforced Bearings with Holes"
- J. H. Yon, 1986 (MSCE Non-thesis) "Initial Design Responses of Hollow-core Multibeam Plates"
- G. Graff, 1986 (MSCE Non-thesis) "Steel Stresses in Reinforced Elastomeric Bearings"
- L. Yang, 1986 (MSCE Non-thesis) "Behavior of Prestressed Concrete Piles Under Seismic Loading"
- R. Rubio, 1987 (MSCE Thesis) "End Responses of Skewed Multibeam Bridges"
- J. R. Schlechten, 1987 (MSCE Non-thesis) "Transverse Shear and Torsional Rigidities of Voided Slabs"
- A. Haldorssen, 1987 (MSCE Thesis) "Seismic Performance of an Icelandic Precast Concrete Structure"
- I. Hasayen, 1988 (MSCE Thesis) "Shaking Table Tests on Piles"
- D. J. Farrar, 1988 (MSCE Non-thesis) "Dynamic Elasto-plastic Analysis: Background and Applications for Earthquake Analysis"
- A. McAteer Berg, 1988 (MSCE Thesis) "Response of Curved Beams"
- P. Brallier, 1989 (MSCE Non-thesis) "Analysis of Multibeam Structures of Double Tee Sections by Grillage Model, including Warping Torsion Effects"
- M. Bramhall, 1989 (MSCE Thesis) "Constructible Stirrup Details for Reinforced Concrete Columns"
- G. Thesenvitz, 1990 (MSCE Non-Thesis) "The Effects on and Design Tools for the Application of Base Isolation to Low- and Medium-Rise Structures"

S. Oyawoye, 1990 (MSCE Non-Thesis) "Experiments in modeling Nonlinear Behavior of Concrete Structures"

T.R. Hicks. 1991 (MSCE Thesis) "Connections Between Precast Concrete Members for Use in Seismic Zones".

T. Rogers. 1991 (MSCE Thesis) "Design and Construction of Bridge Bearing Testing Rigs".

J. Zahn, 1992 (MSCE non-Thesis) " Modeling of Lateral Stability of Long Prestressed Concrete Members".

J. Rudolf, 1992 (MSCE non-Thesis) " The Effect of Torsion on Lateral Stability of Long Span Beams".

J. Curtis. 1993. (MSCE Thesis). "Design of a Shaking Table".

T. Doggett. 1993. (MSCE Thesis). "

E. Ojala. 1993. (MSCE Thesis). "Effect of Warping on Roll Buckling of Long Prestressed Concrete Girders".

A. Mole. 1993. (MSCE Thesis). "Seismic Response of Hybrid Connections in Precast Concrete Frames".

D. Kokobun. 1994. (MSCE Thesis). "Seismic Analysis of Instrumented Buildings."

J. Klekotka. 1994. (MSCE Non-Thesis). "Passive Energy Dissipation for Concrete Pier Structures".

A. Ewing. 1994. (MSCE Thesis). "Dynamic Analysis of Hybrid Reinforcement in Cast-in-place Concrete Moment Frames".

A. Quinn. 1995. (MSCE Thesis). "Parking Garages in the Northridge Earthquake."

T. Maund. 1995. (MSCE Thesis). "Seismic Behavior of Diaphragms in Parking Garages."

N. Philip. 1995 (MSCE Thesis). "Constructibility Review Process for Improving the Quality of Projects at the WSDOT."

Paul Walker. 1995 (MSCE Thesis) "A model for Bond in Reinforced Concrete"

Xenia Rofes. 1996 (MSCE Thesis). "Analysis of Reinforced Concrete Columns with Little Transverse Reinforcement".

Sveinn Bjornsson. 1996. (MSCE Thesis). "Seismic Behavior of Skew Bridges". Co-chaired with Eberhard.

Tom Hudgings. 1996 (MSCE Thesis). Co-chaired with Eberhard.

Phil Donovan. 1996 (MSCE non-thesis). "Construction and Installation of an Earthquake Shaking Table". *(NOTE: Prof. Bob Holtz was the official advisor, but I was responsible for oversight of the work and the report).*

Kirk Nosh. (1997) (MSCE Thesis). Retrofit of Rectangular Reinforced Concrete Columns Using Tonen Forca Tow Sheet Carbon Fiber Wrapping. Co-chaired with MacRae.

Liz Fekete. 1997 (MSCE Thesis). "Prestress Losses in High Performance Concrete Girders". Co-chaired with Eberhard.

Paul Barr. 1998 (MSCE Thesis). "Behavior of High Performance Prestressed Concrete Girders". Co-chaired with Eberhard.

Jaime Murray, 1998 (MSCE Thesis). "A Study of Concrete Confined by FRP Materials".

Larry Owen. 1998 (MSCE Thesis). "Stress-strain Behavior of Concrete Confined by Carbon Fiber".

Nobuto, J. 1998 (MSCE Thesis). Co-advised with Eberhard. "Unseating of Skew Bridges During Earthquakes".

Swett, G.D. 1998 (MSCE non-thesis). "Constructability Issues with Widened and Stage-Constructed Steel Plate Girder Bridges".

Rebecca Hix-Collins. Expected Wi 1999. (MSCE Thesis). "Design of a Precast Concrete Test Building for Earthquake Resistance".

Joe Galusha. Wi 1999. (MSCE Thesis). "Seismic Performance of Precast Concrete Walls".

Andre Sidler. Au 2000. (MSCE Non-Thesis). Inelastic Buckling of Bars Confined in Tubes.

Steve Day. Au 2000. (MSCE Thesis). "Experimental Study on Hybrid Frames."

Jared Nelson. Au 2000. (MSCE Thesis). Co-chaired with Eberhard. "Damage Model Calibration for Reinforced Concrete Bridge Columns".

Zachary Price. Au 2000. (MSCE Thesis). Co-chaired with Eberhard "Experimental

Greg Mosier. Au 2000. (MSCE Thesis). Co-chaired with Lehman “Seismic Assessment of Reinforced Concrete Beam-Column Joints”.

Dan Raynor. Au 2000. (MSCE Thesis). Co-chaired with Lehman “Bond Assessment of Hybrid Frame Continuity Reinforcement”.

Paul Barr. Au 2000. (MSCE Thesis). Co-chaired with Eberhard “Consistent Crudeness in Prestressed Concrete Girder Design”.

Steve Walker Su 2001 (MSCE thesis) with Lehman. “Seismic Performance of Existing Reinforced Concrete Beam-Column Joints”

Jubum Kim Su 2002 (PhD). “Design of Hybrid Frames”

*In progress*

Chris Yeargin (with Lehman)

Ragnar Jonsson

Danny Alire (with Lehman)

Meredith Anderson

Rob Baxter (nonthesis)

**23. Other Student Supervision (service on graduate degree committees).**

Served as member on over 50 student committees. Details not recorded.

Grad School Rep on one PhD (Music) - ongoing

Khoo Jyh Hao Sp2002 (external examiner, Nanyang U. in Singapore).

**24. Departmental Service**

SGEM Program Advisor, (1985-87)  
 CE Dept Graduate Program Coordinator (1987-89)  
 Computer Committee (1987-91)  
 Undergraduate Curriculum Review Committee (1987-88)  
 Structures Research Lab Committee (1990-present)  
 Faculty Search Committees (chair 1994)  
 Structures Research Lab Director (1994-1999)  
 SGEM Program Director (1994-1998)  
 Department Strategic Planning Committee (1997-1999)  
 PhD exam Committees (several)

**25. College Service**

College PhD Committee (1988)  
 Scholarships Committee (chair) (1989)  
 Honors Program Committee (1992-present)  
 Promotion and Tenure Committee (1992-95, chair 95)  
 Advisory Committee to Dean on Faculty Salaries (1995)

**26. University Service**

Faculty Senate, (1983-84)  
 Senate Library Committee (chair), (1986)  
 Architecture Dept. Review Committee (1990)  
 Advisory Committee on Intercollegiate Athletics (1992-94)  
 Policy Board, Center for Study of Capable Youth (1990-97)  
 Mech Eng. Dept. Review Committee (1994)  
 Search Committee, Dean of Engineering (1995-96)  
 Walker-Ames and Dantz Distinguished Lecturer Selection Committee (1998-present)  
 Grad School Committee for 10-year review of the Architecture Department.

**27. Student Service**

ASCE steel bridge competition faculty advisor (1995-6, 96-97,97-98)

**28. Community Service**

Consultative Committee, Seattle Seismic Hazard Program (1991-1993).  
 Helped various local groups with advice on minor structural problems. Details not recorded.

**29. National Service**

Member AASHTO Subcommittee T3 to rewrite Seismic Isolation Guide Specification.

### **30. All Other Service**

### **31. Consulting Experience**

UW Board of Regents: Study of seismic safety of Olympic Hotel (1978-79) with C. W. Roeder and N. M. Hawkins.

McGonagle Sherrard and McGonagle. Feasibility study on George Washington Bridge. (1978-80) with C. W. Roeder.

Concrete Technology Associates and Concrete Technology Corporation.

Investigation of flange supported tee-beams. (1979-80).

Investigation of corbels for precast concrete columns. (1979-80).

Investigation load-bearing insulated wall panels. (1980-81).

Investigation of point loads on precast double-tees floors. (1981-82).

Study on diaphragm action in precast concrete floors. (1981-82).

Investigation of eccentric load in hollow-core slabs. (1981-82).

Study of abnormal wheel loads on a bridge at Nome, AK. (1982-83).

Construction technique for renovation of Holland Tunnel (NY) (1985).

Tewell Thorpe and Findlay. Pile foundation failure. (1981-82).

Diamond & Sylvester. Safety of Sea Tac Tower II. (1982-83) with Hawkins.

Washington State D.O.T. Investigation of distressed bridge bearings. (1983).

Wiss Janney & Elstner. Analysis of precast concrete parking structure (1984).

Concrete Technology Corp. Study on connections in precast conc. (1984-86).

ABAM Engineers. Load analysis of Whittier dock, Alaska. (1985).

Scougall Rubber Co. Testing of sliding bridge bearings. (1985-6).

J. D. Abrams Inc. Investigation of damaged bridge bearings. (1987-90).

Williams, Kastner & Gibbs. Investigation of roof membrane (1989).

Aikinstrut Co. Design of fiber-reinforced plastic structures (1989-92).

Arvid Grant and Associates. Seismic isolation of I-90 bridge (1989).

Slope Indicator Co. Instrument verification testing. (1991)

Howard S Wright, Verification of Steel Truss Joint (1993)

NCHRP. Writing AASHTO Code provisions for bridge bearings. (1992 -)

Charles Pankow Builders. Seismic Precast Concrete Frame Systems. (1992-)

Takenaka Corp. Investigation of failed hollow core slabs. (1993)

Caspar Phillips and Associates. Investigation of hollow core slabs. (1993)

MRPRA. Review of Demonstration Seismic Isolation Project. (1993)

Seattle Eng. Dept. Review Panel for Seismic Safety of City Bridges. (1993-4)

Kirkhill Rubber Co. Advice on Failed Rubber Seal System. (1994)

Van Maren Construction. Investigation of a Post-tensioning Failure. (1994).

Parsons Brinkerhof. Investigate a failed Bearing at Bonneville Dam. (1994)

J. Zingesser and Ass. Precast Concrete Frames in Seismic zones. (1994)

Oles Morrison and Rinker. Advice on a Leaking Stadium Roof. (1995)

Graham and Dunne. Sound Vibration Suppression in Buildings (1995)

CNA Insurance. Prefabricated block retaining wall. (1996)  
Earthbound Engineering. Seismic Hold-down Device. (1996-7)  
Sutter Leach and Lindstrom. Design of jail floor structure (1998)  
Thorsrud Cane and Paulich. Advice on deteriorated buildings (1998)  
Steven Tan. Investigation of failed mechanical components (1997)  
Snohomish County. Investigation of failed concrete anchors. (1998)  
Inca Engineers. Advice on Post-tensioned dam structure. (1998)  
Team Corporation. Advice on design of large centrifuge. (1998)  
4R Construction. Investigation of a collapsed warehouse structure (1998)  
DCI Engineers. Advice on defective RC ductile moment frame (1999)  
Arnold & Johnstone Engineers, NZ. Analysis of a concrete dock for heavy crane loading. (2000)  
T.Y Lin International. San Francisco Bay Bridge. Design or Special bearings (2001-2002).  
WSDOT. Blue Ribbon Panel to evaluate the Alaskan Way Viaduct (2001).  
Prefabricados C por A. (Santo Domingo). Design of a precast concrete building. (2001-2002)

**John Stanton – 2001-2002 Statement.**

This statement describes only changes since last year. For the longer term view, last year's statement should be read in conjunction with this one.

During the past academic year (Sept 2001 – present) I have taught three classes, including one new one (CEE 515). I also conducted two CEE 499 classes. One was a presentation of the undergrad concrete class for some students who had not been able to take it in the fall. The other was for the PCI "Big Beam" competition, for which a team from the UW entered two beam specimens.

Teaching CEE 515 was a lot of fun. I have not taught Earthquake Engineering in eleven years, and so had to re-write the class notes from scratch. I also had to learn MATLAB, and now wish I had learned it years ago. It is a great tool. The students got more programming experience than I think they really bargained for. The Big Beam Competition was also very enjoyable. Five students from the fall concrete class approached me and asked to advise them for the competition. The idea is to design, build and test under external supervision, the best prestressed concrete beam that is subject to certain constraints. They did an excellent job, not only with the design, but also on the write-up. They all said that they learned an enormous amount.

I have worked with Marc Eberhard and our former student Paul Barr in writing some papers on the High Performance Concrete project that Paul's thesis was based on. We have produced one SM report (on the mechanics of a measuring instrument that we developed), have submitted one paper on it, are completing another paper on the project and have one more on the drawing board.

Dawn Lehman and I have also continued our joint work on beam-column joints. We have now had students Greg Mosier, Steve Walker, Chris Yeargin, Danny Alire, and Meredith Anderson work on the project. Greg and Steve are finished. The others should be done by the end of 2002. We have jointly advised all of them. We have one journal paper accepted by ACI (based on Steve's thesis) and have another on the drawing board. Several conference papers have come out of it too.

Dawn Lehman and I have a project just starting up with WSDOT on outrigger bents on SR99.

The PRESSS program continues to occupy my attention. I gave two invited lectures for PCI (in Seattle and Atlanta) explaining how the precast concrete systems work. I have been asked to do four more this fall (2002). I was told by several participants in last year's sessions that my presentation was easily the best of the five in the day. I also published the PRESSS Design Guidelines. This is a summary of the design of all the new precast concrete systems that went into the PRESSS test building. It is dense stuff. PCI had 500 copies printed in the first printing and the document is being widely read. Two students (Blake Inouye and Rob Baxter) came to the UW to do PhDs, specifically on this material. I take pride in the fact that such talented individuals should be attracted by the program. I was also asked to help the design-build team on the first building in the world (it is in the Dominican Republic) to use a split precast concrete wall system for seismic resistance. (We have a pair of papers in the FIB conference in Athens next May on the building). That was one of the systems we developed for the PRESSS program. I have been invited to Chile this October to act in much the same capacity.

As an outgrowth of that work, Jubum Kim is completing his PhD thesis on the effects of beam growth on the seismic behavior of concrete frames. When the beams bend, they pry the columns apart. The end columns in the building are then subjected to more bending and shear than are predicted by conventional analysis. Very few others in the world (2 that we know of) have looked the matter seriously. Jubum has a great analytical model and is way ahead of the competition. Ragnar Jonsson is also finishing up his MSCE thesis on Displacement based design (funded in part by Charles Pankow builders). He has done an excellent job. This work is also an outgrowth of the PRESSS project.

I have helped Prof. Peter May (Political Science) with a paper that addresses some of the issues concerning implementation of Performance Based Design.

The year has been overshadowed by difficulties with funding. NSF has been sitting on three proposals since October 2001, and it is now July 2002. That makes funding students very difficult. Also we did not get the \$3.5m NEES project that we sought. (I had only a minor role in that). I hope next year is better, at least for funding.

This statement describes only changes since last year. For the longer term view, last year's statement should be read on conjunction with this one.

I spent the summer and fall of 1999 working on five major experimental projects: (Hybrid Frame testing for Charles Pankow Builders, Evaluation of bond in precast concrete also for Pankow, Development of Design Procedures for lightweight wall panels through Testing, Beam column Joints in older RC structures – with Lehman - and Evaluation of the effects of ground motion on older RC columns – with Eberhard). They, combined with Paul Barr's work on bridges, supported 2 PhDs, 6 MS and several undergraduates. During the summer, I also participated in the testing of the PRESSS precast concrete test building in San Diego. That building is the largest structure ever to have been tested in a lab in the USA and was designed by my graduate students Rebecca Hix and Joe Galusha here at UW. . The experimental projects continued into the autumn, during which I remained at UW. I then spent Jan-April 2000 as an Erskine Fellow at the University of Canterbury in New Zealand, where I gave one course and several invited talks (to both academic and professional organizations). Two weeks in late Jan and early Feb were also taken up by the 12<sup>th</sup> World Conference on earthquake Engineering and an FIB Commission 7 meeting.

Probably the two most important events that occurred during the year were an offer of a chaired professorship at the University of Canterbury (NZ) and the testing of the PRESSS building. The chair I turned down, after considerable soul-searching. It had been occupied by Prof. Bob Park for some twenty years, and during that time he had established a reputation as one of the world-wide giants in earthquake engineering. The offer to fill his shoes was thus something of an honor and was not something to be turned down lightly.

The testing of the PRESSS building represented the culmination of a ten-year, multi-university NSF program and two years of intense effort at UW. Precast concrete has been side-lined by the building codes (which are written in very prescriptive form around cast-in-place construction and virtually outlaw precast in seismic areas). The goal of the PRESSS program was to develop innovative ways of designing precast concrete, and to provide design methodologies, that would make it work well in seismic regions and allow it to compete. Phase I involved concept development (at UW and elsewhere) and Phase II consisted of testing of components (at other universities). In Phase III a complete building was to be designed at large scale and tested under simulated earthquake loading at UC San Diego.

The UW was selected to design the building. Every structural system except one in it was totally new and violated (intentionally!) at least one significant aspect of the current code; thus the entire building had to be designed without the help of precedent. Because the structure contained so many different systems, it was much more complex than a comparable real structure would be. The testing proved stunningly successful. The building did essentially exactly what it was meant to, which was to ride out an earthquake 50% larger than the UBC Zone 4 design earthquake, with almost no damage. It attracted national TV attention. I do not expect to have the opportunity of partaking in such an exciting and, I believe, revolutionary program again in my professional career. At every talk about it that I have been involved in, members of the audience have come up and said that the work is the most innovative and exciting that they

have seen in a very long time. To have been able to design the building was a lot of work, a privilege and a real pleasure that I will never forget.

### **John Stanton - 2000 Statement.**

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### **John Stanton - 1999 Statement.**

During the last four years I have expended the majority of my effort on building up the Structural Research lab. I believe that those efforts are now starting to bear fruit. The lab is better equipped, better funded, and more active than in all the time that I have been here. We have a major grant from NSF (approx. \$1m total) for new equipment in addition to previous improvements to the infrastructure. We have as much commercial work as we can handle, which helps pay for the lab staff and relieves the Department of the burden of some of their support. We have recently also been able to produce seed funding for a new CNC machine in the machine shop, which will vastly improve the shop capabilities, and helps to offset the loss of a 0.8 FTE machinist. I took over the oversight of the lab staff at the same time, and have met with them weekly since then. Although they are not a perfect crew, they are now working more effectively and willingly, and are getting more done, than has been the case in the past. I believe that almost all of these improvements have occurred because of my efforts, either individually or as leader of a team.

Nearly all of the lab experiments, either commercial or those based on conventional research, have involved several undergraduate students as well as the usual graduates. We now have a corps of about six undergraduates who are lab-trained, and who help regularly on tests. They have benefited enormously from the experience.

My work on the earthquake resistant concrete "Hybrid Frame" building system also seems to be getting somewhere. The original idea for the system was mine, its development has been extensively funded by a contractor (which is very rare in construction), and we have now been given the job of testing it - over San Diego and Lehigh, both of which have labs that put ours to shame. It is being used in the construction of a 55 story building in San Francisco, starting June 1999. When I spoke about it in New Zealand in April, both contractors and academics expressed the view that it was the most innovative and exciting concept in concrete earthquake engineering to have emerged in the last 30 years.

Other work of mine on reinforced concrete in seismic regions also appears to be being appreciated. Ed Nawy is updating his book on Reinforced Concrete. He wanted information on connections in precast concrete and asked three knowledgeable people in the business who he should go to for it. The three respondents all gave him the same name. The Department of Civil Engineering at the University of Canterbury in New Zealand is looking for someone to replace Prof. Bob Park, who is retiring and is one of the world giants in the game of earthquake engineering. They contacted me and asked me to apply. When I saw Bob Park in Japan, a week after the interview, he told me that, although he was not on the Search Committee, he had made his choice of candidate very clear to them. I took that as a compliment and assume that it means that I will be getting an offer.

I have had quite a large number of graduate students over the years, especially recently, and hope that I have done them well. Feedback from local consultants suggests that they are very pleased with our Structures MSCE students, for which my colleagues should be proud. I have also been fortunate in obtaining funding recently, especially from industrial sources. I was one of the three (with Kramer and Eberhard) who were primarily responsible for the inclusion of Washington in the PEER earthquake center.

I am presently working with other faculty from ME, AA and MSE in trying to put together a Center on Fiber Composite Materials at the UW.

There are some outstanding individuals in this Department, and they all have first rate BS filters. My dream would be to win from them the same admiration in which I hold them, and I intend to keep working towards it.