# THE UNIVERSITY OF TEXAS **Cockrell School of Engineering Standard Resume**

FULL NAME: Atila Novoselac TITLE: Assistate
DEPARTMENT: Civil, Architectural, and Environmental Engineering
AN2636 TITLE: Assistant Professor

## **EDUCATION:**

University of Belgrade	Mechanical Engineering	B.S.	1994
University of Belgrade	Mechanical Engineering	M.S.	2000
Pennsylvania State University	Architectural Engineering	Ph.D.	2005

## PROFESSIONAL REGISTRATION: N/A

## **CURRENT AND PREVIOUS ACADEMIC POSITIONS:**

Pennsylvania State University	Postdoctoral Scholar	01/2005-07/2005
University of Texas at Austin	Assistant Professor	08/2005-Present

### OTHER PROFESSIONAL EXPERIENCE:

University of Belgrade	Research Assistant	1995-1997
University of Belgrade	Research/Teaching Associate	1997-2000
Energy Institute, Belgrade	Consulting Engineer	1995-2000
Pennsylvania State University	Research Assistant	2000-2004

## **HONORS AND AWARDS:**

Grant in Aid Fellowship for Graduate Students, ASHRAE Dean's Fellowship for Graduate Students, Pennsylvania State University	2001 2001-2004
Gordon D. Kissinger Graduate Fellowship, Pennsylvania State University	2003
Jack and Laraine Beiter Excellence Endowment in Architectural	
Engineering, Pennsylvania State University	2004
Second Award for the Engineering Solution at the Solar Decathlon Competition 2007,	
International Competition in Design of Solar House	2008
Best Student Paper Award in 2007/2008 from the ISIAQ Received by	
Dr. Novoselac's PhD student Donghyun Rim	2008
American Society or Heating, Refrigeration and Air Conditioning Engineers	
(ASHRAE) New Investigator Award for 2010/2011	2010
Elsevier Award: Building and Environment Journal Outstanding Reviewer in 2009	2010

#### **MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:**

Member, American Society or Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)	2000-present
Member, Architectural Engineering Institute (AEI)	2006-2008
The American Association for Aerosol Research (AAAR)	2008-present
International Society of Indoor Air Quality and Climate (ISIAQ)	2009-present

# **UNIVERSITY COMMITTEE ASSIGNEMENTS:**

Departmental- Member, Curriculum Committee	2005-present
Member, ARE Graduate Admissions Committee (Chair from 2008)	2005-present
Member, ABET Committee (Chair of the Subcommittee for ABET PO4)	2008-present

University- Member, Executive Committee of IGERT - Indoor Environmental

Science and Engineering 2008-present

## PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:

ASHRAE- Technical Committee 4.10: Indoor Environmental Modeling 2004-present

Voting Member from 2006 Membership Chair from 2008

Technical Committee 5.3: Room Air Distribution 2005-present

Voting Member from 2007

Technical Committee 4.3: Ventilation Requirements & Infiltration 2006-present

Corresponding member

Technical Committee 4.7: Building Energy Modeling 2007-present

Corresponding member

# **PROFESSIONAL ACTIVITIES:**

### Proposal review panels:

Environmental Protection Agency (EPA)

EPA SBIR Proposals: Green Buildings Materials and Systems (Sept 30-Oct 2, 2009)

### Project review panels:

The Austrian Science Fund (FWF)

Evaluation for the K- Project 'MPPF' (Multifunctional Plug & Play Facade) within the program: Competence Centres for Excellent Technologies (2007-present)

### Manuscript reviewer:

Journals: Building and Environment; Aerosol Science & Technology; Atmospheric Environment, Building Simulation; Energy end Buildings; Energy, the International Journal; HVAC & R Research Journal; ASHRAE Transactions.

# Conference committee:

ROOMVENT 2009 Building Ventilation Conference, Busan, South Korea, May 24-27, 2009.

Member of the International Scientific Committee and Session Chair.

INDOOR AIR 2011 Conference, Austin Texas, June 5-10, 2011.

Conference Technical Co-Chair.

#### **COURSES TAUGHT:**

ARE 346N: Building Environmental Systems Fa05,Sp07,Sp08,Fa08,Sp10

ARE 383/371,CE397: Energy Simulation in Building Design Sp06,Sp07,Sp09

ARE 383, CE397: Mod. of Air and Pollutant Flows in Build. Fa06,Fa07,Fa08,Fa09

ARE 389H/346P,CE389H: HVAC Design Sp8,Sp10

CE 397: Indoor Air Quality: Field Measurements Su08 CE 397: Selected Topics in Sustainability, co-teach Sp09

## **PUBLICATIONS:**

### A. Refereed Archival Journal Publications (\*designates graduate student advisee)

\*Rim, D. and Novoselac, A., 2010. "Occupational Exposure to Hazardous Airborne Pollutants: Effects of Source Characteristics." *Journal of Occupational and Environmental Hygiene, approved for publication on 07/09/2010 for December 2010.* 

\*Goldstein, K. and Novoselac, A., 2010. "Convective Heat Transfer in Rooms with Ceiling Slot Diffusers (RP-1416)." HVAC&R Research Journal, 16 (5), 629-655.

- Stephens, B., Novoselac, A., and Siegel, J.A., 2010. "The Effects of Filtration on Pressure Drop and Energy Consumption in Residential HVAC Systems (RP-1299)." *HVAC&R Research Journal*, 16 (3), 273-294.
- \*Lo, L.J. and Novoselac, A., 2010. "Localized Air Conditioning with Occupancy Control in an Open Office." *Energy and Buildings*, 42 (7), 1120-1128.
- Stephens, B., Siegel, J.A., and Novoselac, A., 2010. "Energy Implications of Filters in Residential and Light Commercial Buildings." *ASHRAE Transactions*, 16 (1), 346-355.
- \*Rim, D. and Novoselac, A., 2010. "Ventilation Effectiveness as an Indicator of Occupant Exposure to Indoor Particles." *Building and Environment*, 45 (5), 1214–1224.
- Kunkel, D.A., Gall, E.T., Siegel, J.A., Novoselac, A., Morrison, G.C., and Corsi, R.L., 2010. "Passive Reduction of Human Exposure to Indoor Ozone." *Building and Environment*, 45 (2), 445-452.
- Novoselac, A. and Siegel, J.A., 2009. "Impact of Placement of Portable Air Cleaning Devices in Multizone Residential Environments." *Building and Environment*, 44 (12), 2348-2356.
- \*Rim, D. and Novoselac, A., 2009. "Transport of Particulate and Gaseous Pollutants in the Vicinity of a Human Body." *Building and Environment*, 44 (9), 1840-1849.
- \*Mukai, C., Siegel, J.A., and Novoselac, A., 2009. "Effect of Airflow Characteristics and Surface Properties on Particle Resuspension." *Aerosol Science and Technology*, 43(10), 1022-1032.
- \*Rim, D., Novoselac, A., and Morrison, G., 2009. "The Influence of Chemical Interactions at the Human Surface on Breathing-zone Levels of Reactants and Products." *Indoor Air*, 19 (4), 324-334.
- \*Rim, D. and Novoselac, A., 2008. "Transport of Particle and Gaseous Pollutants around Human Body under Natural and Forced Convection." *ASHRAE Transactions*, 114(2), 130-142.
- Srebric, J., Yuan, J., and Novoselac, A., 2008. "On-Site Experimental Validation of a Coupled Multi-zone and CFD model." *ASHRAE Transactions*, 114 (1), 273-281.
- Novoselac, A., Burley, B.J., and Srebric, J., 2006. "New Convection Correlations for Cooled Ceiling Panels in Room with Mixed and Stratified Airflow." *HVAC&R Research Journal*, 12 (2), 281-294.
- Novoselac, A., Burley, B.J., and Srebric, J., 2006. "Development of New and Validation of Existing Convection Correlations for Rooms with Displacement Ventilation Systems." *Energy and Buildings*, 38 (3), 163-173.
- Novoselac, A. and Srebric, J., 2003. "Comparison of Air Exchange Efficiency and Contaminant Removal Effectiveness as IAQ Indices." *ASHRAE Transactions*, 109 (2), 339-349.
- Novoselac, A. and Srebric, J., 2002. "A Critical Review on the Performance and Design of Combined Cooled Ceiling and Displacement Ventilation Systems." *Energy and Buildings*, 34 (5), 497-509.

### Under Review:

- Peeters, L., Beausoleil-Morrison, I, and Novoselac, A. "Indoor Convective Heat Transfer Modeling: Critical Review and Discussion on Experimentally Derived Correlations." Submitted to *Energy and Buildings* in August 2010.
- \*Clark, J. and Novoselac, A. "Convective Heat Transfer in Rooms with Floor Registers (RP-1416)." Submitted to *HVAC&R Research Journal* in September 2010.

#### B. Refereed Conference Proceedings (\*designates graduate student advisee)

\* Konstantinidis, C.V., Lang, W., and Novoselac, A., 2010. "Integration of Phase Change Materials in Lightweight Buildings in order to Optimize the Conditions for Thermal Comfort and to Improve the Building Energy Performance." *Proceeding of the 10th REHVA World Congress Clima 2010*, Antalya, Turkey, 9-12 May 2010.

- Stephens, B., Novoselac, A., and Siegel, J.A., 2009. "Impacts of HVAC Filtration on Air Conditioner Energy Consumption in Residences." *Proceeding of ISIAQ's International Healthy Buildings Conference*, Syracuse, NY, September 13-17, 2009.
- \*Lo L.J. and Novoselac, A., 2009. "Ventilation Effects of Occupancy Based Air Conditioning in Open Office Spaces." *Proceeding of ISIAQ's International Healthy Buildings Conference,* Syracuse, NY, September 13-17, 2009.
- \*Rim, D. and Novoselac, A., 2009. "Inhalation Exposure Associated with Accessibility of Source." *Proceeding of ISIAQ's International Healthy Buildings Conference,* Syracuse, NY, September 13-17, 2009.
- \*Lo, L.J. and Novoselac, A., 2009. "Localized Air Conditioning in an Open Office Space." *Proceeding of ROOMVENT 2009, Busan, South Korea, May 24-27, 2009.*
- \*Rim, D. and Novoselac, A., 2009. "Evaluation of Ventilation Effectiveness as an Indicator of Exposure to Indoor Particles." *Proceeding of ROOMVENT 2009*, Busan, South Korea, May 24-27, 2009.
- \*Rim, D. and Novoselac, A., 2008. "Occupant Exposure to Resuspended Particles from Floor Surfaces in Typical Indoor Environments." *Proceeding of Indoor Air 2008 Conference*, Copenhagen, Denmark, August 17-22, 2008. Paper ID: 292.
- \*Kang, S.Y., Siegel, J. and Novoselac, A., 2008. "Effective Positioning of Portable Air Cleaning Devices in Multizone Residential Buildings." *Proceeding of Indoor Air 2008 Conference*, Copenhagen, Denmark, August 17-22, 2008. Paper ID: 644.
- Lohaus, J.H., Novoselac A. and Siegel J.A., 2008. "Particle Resuspension from Indoor Flooring Materials." *Proceeding of Indoor Air 2008 Conference,* Copenhagen, Denmark, August 17-22, 2008. Paper ID: 342.
- Kunkel, D., Corsi, R., Morrison, G., Novoselac, A., and Siegel, J., 2008. "Passive Ozone Control through Use of Reactive Indoor Wall and Ceiling Materials." *Proceeding of 2008 Air and Waste Management Association Annual Conference*, Portland, Oregon. June 24-26, 2008.
- Novoselac, A. and \*Rim, D., 2007. "Airflow and Particulate Matters Distribution in Vicinity of a Human Body." *Proceeding of Roomvent 2007 Conference*, Helsinki, Finland, June 13-15, 2007.
- Novoselac, A. and \*Rim D., 2006. "Effects of the Human Body's Thermal Plume on Pollutant Exposure in an Indoor Environment." *Proceedings of the Air and Waste Management Association / EPA Indoor Air Quality Solutions Conference*, Research Triangle Park, NC, July 17-19, 2006.
- Siegel, J.A., Novoselac, A., and Corsi, R.L., 2006. "Indoor Environmental Science and Engineering: An Integrated Academic Program." *Proceedings of the Air and Waste Management Association Environmental Protection Agency Indoor Air Quality Solutions Conference*, Research Triangle Park, NC, July 17-19, 2006.
- Novoselac, A. and Srebric, J., 2003. "Sensitivity Study of Parameters Influencing IAQ Indices." *Proceedings of the 7th International Symposium on Ventilation and Contaminant Control*, Sapporo, Japan, Aug 5-8, 2003.
- Novoselac, A. and Srebric, J., 2002. "Influence of Different Pollutant Sources on Selection of Ventilation Systems in Offices with Cooled Ceiling." *Proceedings of Indoor Air 2002*, Monterey, CA, June 30-July 5, 2002.
- Srebric, J. and Novoselac, A., 2002. "Design of Low-Energy Cooling System by Using Coupled Energy Simulation and Computational Fluid Dynamics." *Proceedings of ROOMVENT 2002*, Copenhagen, Denmark, September 8–11, 2002.

## Under Review:

- \*Boor, B., Siegel, J.A., and Novoselac, A., "Particle Resuspension from HVAC Component Surfaces." Submitted to ASHRAE2011 Winter Meeting, Las Vegas, NV, Jan 29-Feb 2, 2011.
- \*Lo L.J. and Novoselac A., "CFD Simulation of Cross Ventilation Using Fluctuating Pressure Boundary Conditions." Submitted to ASHRAE2011 Winter Meeting, Las Vegas, NV, Jan 29-Feb 2, 2011.

\*Rivera, L.A. and Novoselac, A. "The Effect of Variable Airflow on Natural Ventilation Flow Measurement." Submitted to *IAQ 2010 Conference: Airborne Infection Control - Ventilation, IAQ & Energy*, Kuala Lumpur, Malaysia, November 10-12, 2010.

### E. Technical Reports (\*designates graduate student advisee)

- Novoselac, A. and \*Bonggil, J., 2010. "Airflow and Pressure Control in High Rise Residential Buildings." Research report for GS Construction Company, August 2010.
- Novoselac, A., \*Alderman, L., and \*Boor, B., 2010. "The Influence of Ceramic Tile Properties on Building Thermal Performance and Energy Consumption." Research report for Dal-Tile Corporation, January 2010.
- Stephens, B., Siegel, J. A., and Novoselac, A., 2009. "Energy Implications of Filtration in Residential and Light Commercial Construction." Research project report ASHRAE 1299-RP submitted to American Society of Heating Refrigeration and Air Conditioning Engineers, August 2009.
- \*Rim, D. and Novoselac, A., 2009. "Occupational Exposure to Hazardous Airborne Pollutants: Effects of Source Characteristics." Research report submitted to the Pilot Projects Research Training Program in Occupational Safety and Health (NIOSH) Federal Region VI, June 2009.
- \*Kang, S.Y. and Novoselac, A., 2008. "Integration of Photovoltaic Systems in High Rise Buildings." Research report submitted to Samsung Construction Corporation, November 2008.
- Novoselac, A. and \*Brugman, M., 2007. "Energy Analysis for the UT Solar Decathlon House 2007." Research report submitted to the National Renewable Energy Laboratory (NREL), August 2007.

#### **SOFTWARE:**

Novoselac A. Building Energy and Air Flow (BEAF) Simulation Software. The Pennsylvania State University, Architectural Engineering, PA 2001-2005.

#### **ORAL PRESENTATIONS:**

Underline indicates speaker and \*designates graduate student advisee

- Novoselac, A. "Thermal Simulations & Indoor Air Quality." Invited speaker to CSD /AECOM Symposium organized at the School of Architecture, the University of Texas, Austin TX, May 19, 2010.
- \* Konstantinidis, C.V., Lang, W., and Novoselac, A. "Integration of Phase Change Materials in Lightweight Buildings in order to Optimize the Conditions for Thermal Comfort and to Improve the Building Energy Performance." Presented at the 10th REHVA World Congress CLIMA 2010, Antalya, Turkey, May 12, 2010.
- \*Goldstein, K. and Novoselac, A. "Convective Heat Transfer in Rooms with Ceiling Slot Diffusers." Presented at ASHRAE seminar titled "Load Calculations Methodologies for Unique Construction Types" Orlando, FL, January 27, 2010.
- Novoselac, A. and Goldstein, K. "Influence of Venetian Blinds on Convection Heat Transfer at Window Surfaces." Presented at ASHRAE Seminar titled "Load Calculations Methodologies for Unique Construction Types." Orlando, FL., January 27, 2010.
- Novoselac, A. and <u>Siegel, J.A.</u> "Simulating Particle Transport for Analysis of Portable Air Cleaning Devices." Presented at ASHRAE Seminar titled "Modeling of Particle Transport in Indoor Environment for Air Quality Analyses". Orlando, FL., January 26, 2010.
- Novoselac, A. "Human Exposure to Indoor Pollutants: Effects of Source Characteristics and Ventilation System." Invited speaker to Environmental Engineering Lecture Series at Texas A&M University Kingsville, TX, November 18, 2009.
- \*Rim, D. and Novoselac, A. "Inhalation Exposure Associated with Accessibility of Source." Presented at International Healthy Buildings Conference in Syracuse, NY, September 13-17, 2009.

- \*Lo L.J. and Novoselac, A. "Ventilation Effects of Occupancy Based Air Conditioning in Open Office Spaces." Presented at International Healthy Buildings Conference in Syracuse, NY, September 13-17, 2009.
- Novoselac, A. "Pressure and Pollutant Control in High Rise Residential Buildings." Presented at GS Construction Corporate Quarter, Seoul, South Korea, May 28, 2009.
- Novoselac, A. "Airflow and Energy Analyses for Development and Implementation of Sustainable Building Technology." Presented at Samsung Corporate Quarter, Seoul, South Korea, May 28, 2009.
- \*Lo, L.J. and Novoselac, A. "Localized Air Conditioning in an Open Office Space." Presented at ROOMVENT conference in Busan, South Korea, May 24-27, 2009.
- \*Rim, D. and Novoselac, A. "Evaluation of Ventilation Effectiveness as an Indicator of Exposure to Indoor Particles." Presented at ROOMVENT conference in Busan, South Korea, May 24-27, 2009.
- Novoselac, A. "The Influence of Chemical Interactions at the Human Surface on Breathing Zone Levels of Reactants and Products." Presented at the ASHRAE seminar titled "Modeling Techniques for Personal Ventilation", ASHRAE 2009 winter meeting, Louisville, Kentucky, Jun 20-24, 2009.
- Novoselac, A. "How Do Sources Relate to Human Exposure?" Guest speaker at the Building America Expert Meeting, U.S. Department of Energy meeting in Chicago, IL, January 23, 2009.
- Novoselac, A. "Advanced Tools for Building Simulation." Guest speaker at the Seminar in Sustainable Design at the UT School of Architecture, Austin, TX, October 29, 2008.
- \*Mukai, C., Siegel, J.A., and <u>Novoselac, A.</u> "Effect of Airflow Characteristics on Indoor Particle Resuspension." Presented at AAAR 27th Annual Conference, Orlando, FL, October 22, 2008.
- \*Rim, D. and Novoselac, A. "Inhalation Exposure and Accessibility of Source in the Vicinity of Human Body." Presented at ISEA-ISEE Conference on Exposure and Health in a Global Environment, Pasadena, CA, October 11-16, 2008.
- \*Rim, D. and Novoselac, A. "Applicability of Age of Air as an Indicator of Exposure to Particles."

  Presented at 18<sup>th</sup> Annual ISEA-ISEE Conference on Exposure and Health in a Global Environment, Pasadena, CA, October 11-16, 2008.
- \*Kang, S.Y., Siegel, J.A., and <u>Novoselac, A.</u> "Effective Positioning of Portable Air Cleaning Devices in Multizone Residential Buildings." Presented at Indoor Air 2008 Conference, Copenhagen, Denmark, 19 August 2008.
- \*Rim, D. and Novoselac, A. "Occupant Exposure to Resuspended Particles from Floor Surfaces in Typical Indoor Environments." Presented at Indoor Air 2008 Conference, Copenhagen, Denmark, August 20, 2008.
- Lohaus, J.H., Novoselac A. and <u>Siegel J.A.</u> "Particle Resuspension from Indoor Flooring Materials." Presented at Indoor Air 2008 Conference, Copenhagen, Denmark, 21, August 2008.
- Novoselac, A. "Integration of Photovoltaic Systems in High Rise Buildings." Presented at Samsung Corporate Quarter, Seoul, South Korea, May 14, 2008.
- Novoselac, A. "Solar Decathlon Competition Experience." Renewable Technology Seminar, Seoul National University, Seoul, South Korea, May 16, 2008.
- Novoselac, A. "Building Energy and Indoor Environmental Research." Presented at Daewoo Engineering and Construction Head Office, Jung-gu, South Korea, May 17, 2008.
- Novoselac, A. "Indoor Environmental Science and Engineering Program at UT at Austin." Presentation for Students and Faculty of Hanyang University, Mechanical Engineering Hanyang University, South Korea, May 17, 2008.
- O'Brien, W. and Novoselac, A. "Building Models as a Teaching Tool." Faculty Innovation Seminars, University of Texas at Austin, April 15, 2008.
- Novoselac, A. "Indoor Environmental Science and Engineering." The Academy of Distinguished Alumni Meeting at CEER, University of Texas at Austin, November 10, 2007.

- Novoselac, A. and Lee, E. "Validation of Different Modeling Methods for Natural Ventilation." ASHRAE seminar on natural ventilation titled "Modeling and Measurements", Long Beach, CA, June 23-27, 2007.
- Novoselac, A. and Rim, D. "Airflow and Particulate Matters Distribution in Vicinity of a Human Body." ROOMVENT Conference in Helsinki, Finland, June 13-15, 2007.
- \*Rim, D. and Novoselac, A. "Validation of Transient CFD Simulation of Gaseous Pollutant Flow in Indoor Environment." ASME Applied Mechanics and Materials (McMAT) Conference, Austin, TX, June 3-7, 2007.
- Novoselac, A., Srebric, J., and Vukovic, V. "Simplified Physical and Simulation Modeling of Building Occupants." Presentation at ASHRAE seminar on Experimental and CFD Benchmark Studies of Indoor Flow around Thermal Manikins, ASHRAE 2006 winter meeting, Chicago, IL, January 21-25, 2006.
- Novoselac, A., Siegel, J.A., and Corsi, R.L. "Human Exposure Studies." Presentation at Texas Indoor Environmental Quality Institute Meeting at the University of Texas at Tyler, April 3, 2006.
- Novoselac, A., Siegel, J. "Indoor Air Quality laboratory at UT Austin." Workshop at the 2006 Affordable Comfort Home Performance Conference, Austin, TX, May 22-26, 2006.
- Novoselac, A. and Rim, D. "Effects of the Human Body's Thermal Plume on Pollutant Exposure in an Indoor Environment." Presented at the Indoor Environmental Quality Conference in Durham, NC, July 17-19, 2006.
- Siegel, J.A., Novoselac, A., and Corsi, R.L. "Indoor Environmental Science and Engineering: An Integrated Academic Program." Presentation at the Air and Waste Management Association, Environmental Protection Agency Indoor Air Quality Solutions Conference, Raleigh-Durham NC, July 19, 2006.

### **GRANTS AND CONTRACTS:**

Investigators	Title	Agency	Grant Total	My Share	Grant Period
Researcher PI: Jeffrey Siegel	Ventilation and Indoor Air Quality in Retail Stores <sup>1</sup>	ASHRAE and NIST	\$1,408,300	\$28,000	09/10-12/12
Co-PI with: Jeffrey Siegel Glenn Morrison	In-duct Air Cleaning Devices: Ozone Emission Rates and Test Methodology	California Air Resources Board	\$ 113,300	\$37,760	08/10-12/12
PI	CFD Resource Decision in Particle Transport Modeling	ASHRAE	\$121,200	\$121,200	08/10-06/12
Researcher PI: Thom Edgar	Smart Grid Demonstration Project (Pecan Street Project) <sup>2</sup>	DOE	\$2,462,900	\$302,000	07/10-06/15
PI	Transport of Particulate Contaminants in Buildings with Natural Ventilation Systems, New Investigator Award	ASHRAE	\$125,000	\$125,000	07/10-06/13
Researcher PI: Baldick Ross	IGERT - Sustainable Grid Integration of Distributed and Renewable Resources <sup>3</sup>	NSF	\$ 3,070,500	\$90,000	07/10-06/15
PI	Inhalation Exposure to Pollutants in the Sleeping Microenvironment, Graduate Student Grant-in-Aid to Brandon Boor	ASHRAE	\$10,000	\$10,000	07/10-07/11
Co-PI with: Kerry Kinney and Jeffrey Siegel	Sustainability, and Energy Efficiency in the UTest House, Faculty Innovation Grant	Cockrell School of Engineering	\$15,000	\$5,000	09/09-09/10

Investigators	Title	Agency	Grant Total	My Share	Grant Period
PI	Heat Transfer Modeling on Window Surfaces; Graduate Student Grant-in-Aid to Kate Goldstein	ASHRAE	\$10,000	\$10,000	07/09-07/10
PI	Airflow with Localized Air Conditioning in Open Offices Graduate Student Grant-in-Aid to James Lo	ASHRAE	\$10,000		07/09-07/10
PI with Jeffrey Siegel	Design Procedure for Stack Pressure Control in High Rise Residential Buildings -Phase One	GS Construction Company	\$106,000	\$86,000	04/09-09/10
PI	Transport and Fate of Ambient Ultrafine Particles in Buildings, Research at NIST	NIST	\$72,450	\$72,450	02/09-01/10
PI	The Influence of Tile Floor Finish on Building Thermal Performance and Energy Consumption in Buildings	Dal-Tile Corporation	\$19,000	\$19,000	01/09-12/09
PI	Occupational Exposure to Hazardous Airborne Pollutants: Effect of Source Characteristics	SWCOEH (NIOSH)	\$10,000	\$10,000	12/08-06/09
PI	Development of Internal Surface Convection Correlations for Energy and Load Calculation Methods	ASHRAE	\$168,200	\$168,200	08/08-07/11
PI	Integration of Photovoltaic Panels into High Rise Buildings	Samsung Construction Company	\$70,000	\$70,000	09/07-12/08
Co-PI with William O'Brien	Building Models as a Teaching Tool -Faculty Innovation Grant	Cockrell School of Engineering	\$15,000	\$5,000	09/07-09/08
<b>Co-PI</b> with Jeffrey Siegel	Modeling and Measuring Energy Consequence of Filtration in Residential and Light Commercial Buildings	ASHRAE	\$159,000	\$35,000	07/07-06/09
PI	Transport of Particulate Contaminants in Buildings with Natural Ventilation SRA Grant	Graduate School, UT Austin	\$20,000	\$20,000	06/07-09/07
PI	Indoor Air Quality and Human Exposure to Particles, Graduate Student Grant-in-Aid to Donghyun Rim	ASHRAE	\$9,000	\$9,000	01/07-10/08
Researcher PI: Richard Corsi	IGERT Indoor Environmental Science and Engineering <sup>4</sup>	NSF	\$2,868,500	\$198,000	07/0606/11
Co-PI with Michael Garrison	Solar Decathlon Project 2007	DOE and UT Co-op	\$131,000	\$35,000	01/06-10/07
		TOTAL	\$10,994,350	\$1,466,610	

<sup>&</sup>lt;sup>1</sup> Dr. Novoselac is one of eight researchers on the recently awarded project on Ventilation and Indoor Air Quality in Retail Stores. The University of Texas researchers are: Jeffrey Siegel (PI), Richard Corsi, Kerry Kinney, Atila Novoselac, Ying Xu, and Neil Crain. The Pennsylvania State University (PSU) researchers are: Jelena Srebric (PI at PSU) and Stephen Treado.

### Ph.D. SUPERVISIONS COMPLETED:

Name	Completed	Dissertation
Rim, Donghyun	Spring 2009	Evaluation of Human Exposure to Indoor Airborne Pollutants:
		Assessments of Particulate Matter and Reactive Gases

#### M.S. SUPERVISIONS COMPLETED:

Name	Effort	Completed	Research Topic
Clark, Jordan	Thesis	Summer	Indoor Convection Modeling: Development of
		2010	Convection Correlation for Windows and Blinds
Winn, Hogan	Report	Spring 2010	Advanced Integrated Facades: Energy Model
			Development and Calibration of Testing Facility
Konstantinidis, Christina	Thesis	Spring 2010	Integration of Phase Change Materials for Improved
(co-adv. with Lang, W.)			Building Energy Efficiency
Jeon, Bonggil	Report	Spring 2010	Airflow and Stack Pressure Control in High Rise
			Residential Buildings
Bader, Stefan	Report	Spring 2010	Innovative Shading System for Commercial Building
(co-adv. with Lang, W.)			Facades
Goldstein, Kate	Thesis	Fall 2009	Convective Heat Transfer on Window Surfaces in
			Rooms with Ceiling Slot Diffusers
Mukai, Catherine	Thesis	Fall 2008	Effect of Airflow Characteristics on Indoor Particle
(co-adv. with Siegel, J.)			Resuspension
Hussaini, Aziz	Report	Fall 2008	Building Photovoltaic Energy Analyses for Rebate
			Policy
Lee, Eon	Report	Spring 2007	Validation of Different Modeling Methods for Natural
			Ventilation

#### Ph.D. SUPERVISIONS IN PROGRESS:

Students that passed the PhD qualifying exam (Ph.D. Candidates):

Name	Period	Research Topic	
Lo, James	2007 – present	A Pathway to Alternative Ventilation, Combining	
		Decentralized Air Conditioning and Natural Ventilation	

<sup>&</sup>lt;sup>2</sup> As a faculty researcher Dr. Novoselac works on the Pecan Street Project - Smart Grid, funded by \$10.4 million grant from the Department of Energy with UT's share of \$2.46 million. The University of Texas researchers are: Thomas Edgar (PI), Alexis Kwasinski (Co-PI), Michael Webber (Co-PI), Atila Novoselac, Ulrich Dangel, and Jeremy Meyers.

<sup>&</sup>lt;sup>3</sup> Dr. Novoselac is one of 20 faculty participants of the new NSF IGERT - Sustainable Grid Integration of Distributed and Renewable Resources. The funding of \$90K is dedicated to the development of the second Facade Thermal Lab at the School of Architecture under Dr. Novoselac's supervision. Additional finding is anticipated for Dr. Novoselac's PhD students. The University of Texas faculty participants are: Ross Baldick (PI), Thomas Edgar (Co-P), Alexis Kwasinski (Co-PI), Michael Webber (Co-PI), David Adelman, David Allen, Suzanne Barber, John Butler, James Dyer, Mack Grady, Robert Hebner, Atila Novoselac, Kara Kockelman, Werner Lang, Arumugam Manthiram, Jeremy Meyers, Buddie Mullins, Rod Ruoff, Surya Santoso, and Alexandre da Silva.

<sup>&</sup>lt;sup>4</sup> Dr. Novoselac is an active faculty participant and executive committee member of the NSF IGERT - Indoor Environmental Science and Engineering program. Two of his graduate students have been funded from this grant. The University of Texas faculty participants are: Richard Corsi (PI), Jeffrey Siegel (Co-PI), Kerry Kinney (Co-PI), Atila Novoselac, Ofodike Ezekoye, Sam Gosling, John Richburg, Hillary Hart, and Robert Paterson.

Students that still need to take the qualifying exam:

Name	Period	Research Topic
Winn, Hogan	2010 – present	Heat and Mass Transport in Building Envelops and
		Structures: Dynamics and Control
Clark, Jordan	2010 – present	Heat and Moisture in Transport and Control in Indoor
		Environments
Liu, Shichao	2010 – present	Particle Transport Modeling: Coupling of Lagrangian
		Modeling Methods with LES and RANS Turbulence Models

#### M.S. SUPERVISIONS IN PROGRESS:

Name	Effort	Period	Research Topic
Boor, Brandon	Thesis	2009- Fall 2010	Experimental Methodology to Determine
		Cont. towards Ph.D.	Particle Resuspension Fractions from Surfaces
Rhodes, Joshua	Thesis	2009- Fall 2010	Testing of Ozone Production with Electrostatic
(co-adv. with Siegel, J.)		Cont. towards Ph.D.	Precipitators
Kerbacher, Mariel	Report	2009-present	Effect of Thermal Mass on Energy
		-	Consumption in Commercial Buildings

### POSTDOCTORAL FELLOWS SUPERVISION:

Name	Period	Research Topic
Kang, Seok Youn	January 2007 - Dec. 2008	Optimization of Photovoltaic Systems for High-
(Hanyang U., S. Korea)	-	rise Buildings

#### RESEARCH ENGINEER/SCIENTIST ASSOCIATE SUPERVISION:

Name	Period	Research Topic
Peeters, Leen	May 2010 - July 2010	Development of Convection Correlations for
(U. of Brussels, Belgium)		Various Indoor Airflow Regimens

#### **VITA:** (One paragraph that can be used for general purposes)

Dr. Novoselac is an Assistant Professor in the Department of Civil. Architectural end Environmental Engineering at the University of Texas (UT) at Austin. He holds B.S. and M.S. degrees in Mechanical Engineering and in 2005 received his PhD in Architectural Engineering from the Pennsylvania State University. He focuses his research efforts on reducing building energy usage while improving indoor environmental quality. His work includes analytical and numerical modeling as well as laboratory and field experiments. At UT Austin, he maintains a state-of-the-art laboratory for research in the area of indoor environmental control, and with his colleagues (Richard Corsi and Jeffrey Siegel) he maintains the nation's first-fully-instrumented test house for combined energy and indoor environment-related studies. Also, with colleagues from the UT Austin School of Architecture he maintains a state-of-the-art full scale building facade testing laboratory. Using these facilities, he works on the development of new and advancement of existing computation models for building energy simulations, air and pollutant transport analyses, and human exposure studies. Dr. Novoselac has established strong connections with industry. which in turn has sponsored some of his applied research projects. He is also leading research efforts for projects sponsored by national research and engineering organizations. In the area of building energy, his fundamental research includes developing convective heat transfer models for application to building energy studies, while in the area of indoor air quality he is focusing on particle resuspension from surfaces and dynamics in the vicinity of occupants. He is an active member of the American Society of Heating, Refrigerating and Air-Conditioning (ASHRAE) and, as a voting member on several of ASHRAE's research committees, he participates in the development of building codes and standards. His research and involvement in ASHRAE helped him obtain the ASHRAE New Investigator Award for 2010/2011.