**NAME:** \_\_\_\_\_\_\_Nicholas J. Tustison\_\_\_\_\_

**Purpose:** The Annual Faculty Review is used as an opportunity to celebrate faculty successes, develop mechanisms for continued success, and provide guidance and feedback for professional advancement. *Please understand that the more accurate the information you provide the more productive and meaningful your review will be.* Thank you for your thoughtful reporting efforts.

**SECTION I: CURRICULUM VITAE**

**Please submit an updated CV, following the School of Medicine P&T formatting, when you submit this report.**

**Reference website:** [**http://www.medicine.virginia.edu/administration/faculty/faculty-dev/pandt**](http://www.medicine.virginia.edu/administration/faculty/faculty-dev/pandt)

* **Click “P&T Resources” and then click “CV format guide” under “Building a Portfolio”.**

**SECTION II: SCHOLARLY AND ADMINISTRATIVE ACTIVITIES**

1. **BIBLIOGRAPHY**
   1. **Peer Reviewed Papers/Publications between April 1, 2016 – March 31, 2017**

**and Impact Factor**

(Note: Do not include manuscripts that are in press, accepted, or submitted.)

Stone JR\*, Wilde EA, Taylor BA, Tate DF, Levin H, Bigler ED, Scheibel RS, Newsome MR, Mayer AR, Abildskov T, Black GM, Lennon MJ, York GE, Agarwal R, DeVillasante J, Ritter JL, Walker PB, Ahlers ST, and **Tustison NJ**. Supervised learning technique for the automated identification of white matter hyperintensities in traumatic brain injury, *Brain Inj,* 30(12) :1442-1451, 2016. Cited 0 times; IF = 1.822; Rank 187 out of 256 neurosciences and 17 out of 65 rehabilitation.

Wilde EA\*, Bigler ED, Huff TJ, Wang H, Black GM, Christensen Z, Goodrich-Hunsaker N, Petrie JA, Abildskov T, Taylor BA, Stone JR, **Tustison NJ**, Newsome MR, Levin HS, Chu ZD, York GE, and Tate DF. Quantitative Structural Neuroimaging of Mild Traumatic Brain Injury in the Chronic Effects of Neurotrauma Consortium (CENC): Comparison of Volumetric Data within and across Scanners, *Brain Inj,* 30(12) :1442-1451, 2016. Cited 0 times; IF = 1.822; Rank 187 out of 256 neurosciences and 17 out of 65 rehabilitation.

Flors L\*, Mugler JP, De Lange EE, Miller GW, Mata JF, **Tustison N**, Ruset IC, Hersman WW, and Altes TA. Hyperpolarized Gas Magnetic Resonance Lung Imaging in Children and Young Adults, *J Thorac Imag*, 31(5):285-295, Sep 2016. Cited 0 times; IF = 1.723; Rank 71 out of 124 radiology, nuclear medicine, and medical imaging.

Filiano AJ, Xu Y, **Tustison NJ**, Marsh RL, Baker W, Smirnov I, Overall CC, Gadani SP, Turner SD, Weng Z, Peerzade SN, Chen H, Lee KS, Scott MM, Beenhakker MP, Litvak V, and Kipnis J\*. Unexpected role of interferon-γ in regulating neuronal connectivity and social behaviour, *Nature*, 535(7612):425-9, Jul 2016. Cited 3 times; IF = 38.138; Rank 1 out of 63 multidisciplinary sciences.

**Tustison NJ\***, Qing K, Wang C, Altes TA, and Mugler JP, III. Atlas-based estimation of lung and lobar anatomy in proton MRI. *Magn Reson Med*, 76(1):315-20, Jul 2016. Cited 1 times; IF = 3.571; Rank 20 out of 125 radiology, nuclear medicine & medical imaging.

Allen GI, Amoroso N, Anghel C, Balagurusamy V, Bare CJ, Beaton D, Bellotti R, Bennett DA, Boehme K, Boutros PC, Caberlotto L, Caloian C, Campbell F, Neto EC, Chang Y-C, Chen B, Chen C-Y, Chien T-Y, Clark T, Das S, Davatzikos C, Deng J, Dillenberger D, Dobson RJB, Dong Q, Doshi J, Duma D, Errico R, Erus G, Everett E, Fardo DW, Friend SH, Fröhlich H, Gan J, St George-Hyslop P, Ghosh SS, Glaab E, Green RC, Guan Y, Hong M-Y, Huang C, Hwang J, Ibrahim J, Inglese P, Jiang Q, Katsumata Y, Kauwe JSK\*, Klein A\*, Kong D, Krause R, Lalonde E, Lauria M, Lee E, Lin X, Liu Z, Livingstone J, Logsdon BA, Lovestone S, Lyappan A, Ma M, Malhotra A, Mangravite LM\*, Maxwell TJ, Merrill E, Nagorski J, Namasivayam A, Narayan M, Naz M, Newhouse SJ, Norman TC, Nurtdinov RN, Oyang Y-J, Pawitan Y, Peng S, Peters MA\*, Piccolo SR, Praveen P, Priami C, Sabelnykova VY, Senger P, Shen X, Simmons A, Sotiras A, Stolovitzky G, Tangaro S, Tateo A, Tung Y-A, **Tustison NJ**, Varol E, Vradenburg G, Weiner MW, Xiao G, Xie L, Xie Y, Xu J, Yang H, Zhan X, Zhou Y, Zhu F, Zhu H, and Zhu S. Alzheimer's Disease Neuroimaging Initiative. Crowdsourced estimation of cognitive decline and resilience in Alzheimer's disease. *Alzheimers Dement*, 12(6) :645-53, Jun 2016. Cited 5 times; IF = 12.407; Rank 3 out of 192 clinical neurology.

Hasan KM\*, Mwangi B, Cao B, Keser Z, **Tustison NJ**, Kochunov P, Frye RE, Savatic M, and Soares J. Entorhinal cortex thickness across the human lifespan. *J of Neuroimaging*, 26(3) :278-82, May 2016. Cited 0 times; IF = 1.734; Rank 128 out of 192 clinical neurology, 12 out of 14 neuroimaging, and 65 out of 125 radiology, nuclear medicine & medical imaging.

Pustina DP\*, Coslett BH, Turkeltaub PE, **Tustison N**, Schwartz MF, and Avants B. Automated segmentation of chronic stroke lesions using LINDA: Lesion Identification with Neighborhood Data Analysis, *Hum Brain Mapp*, 37(4) :1405-21, Apr 2016. Cited 1 times; IF = 5.969; Rank 2 out of 14 neuroimaging, 27 out of 252 neurosciences, 5 out of 125 radiology, nuclear medicine & medical imaging.

* 1. **Peer Reviewed Papers/Publications that are in press or accepted**

**between April 1, 2016 – March 31, 2017** (Please differentiate)

Altes TA, Johnson M, Fidler M, Botfield M, **Tustison NJ**, Leiva-Salinas C, de Lange EE, Froh D, Mugler JP 3rd. Use of hyperpolarized helium-3 MRI to assess response to ivacaftor treatment in patients with cystic fibrosis, *Journal of Cystic Fibrosis*, In press.

Pontré B\*, Cowan BR, DiBella E, Kulaseharan S, Likhite D, Noorman N, Tautz L, **Tustison N**, Wollny G, Young AA, and Suinesiaputra A. An Open Benchmark Challenge for Motion Correction of Myocardial Perfusion MRI, *IEEE J Biomed Health*, In press.

* 1. **Peer Reviewed Papers/Publications that have been submitted**

**between April 1, 2016 – March 31, 2017**

Cereda, …, **Tustison**, … et al., Unstable Inflation on Computed Tomography Predicts Progression in Experimental ARDS, *Thorax*, Submitted.

Barbosa E, Shou H, Simpson S, Gee J, **Tustison N**, and Lee J. Quantitative CT metrics from the transplanted lung can predict FEV1 after lung transplantation, *American Journal of Roentgenology*, Submitted.

Barbosa E, Shou H, Simpson S, Lee J, **Tustison N**, and Gee J. Multivariate modeling using quantitative CT metrics outperforms models using pulmonary function testing and semi-quantitative scores for diagnosis of bronchiolitis obliterans syndrome after lung transplantation, *European Journal of Radiology*, Submitted.

* 1. **Non-Peer Reviewed Manuscripts**
  2. **Book chapters published between April 1, 2016 – March 31, 2017**
  3. **Books published between April 1, 2016 – March 31, 2017**

1. **EDITORIAL ACTIVITIES**
2. **Journal Editorships**
3. **Journal Guest Editorships**
4. **Journal Editorial Boards**
5. **Book/Manuscript Reviews, and for which journals**

* Medical Imaging Analysis
* NeuroImage
* Human Brain Mapping
* IEEE Transactions on Cybernetics

1. **RESEARCH ACTIVITIES**
   1. **Grants**
      1. **Active grants for which you are Principal Investigator, Co-Principal Investigator or site PI**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Title** | **Agency (NIH, State, Foundation, Internal, Industry)** | **Percent effort** | **UVa Direct Costs** | **UVa Total Costs** | **If industry, percent of total recruitment achieved** | **Expected end date** |
| **ITK-Lung: A software framework for lung image processing and analysis** | **NIH** | **50%** | **Don’t know yet.** | **Don’t know yet.** |  | **7/2022** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

* + 1. **Active grants for which you are a Co-Investigator**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Title of Proposal** | **Agency (NIH, State, Foundation, Internal, Industry)** | **PI** | **Percent effort** | **Expected end date** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

* + 1. **Grants submitted (list as PI, co-PI, site PI, or co-I) between April 1, 2016 – March 30, 2017**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Title of Proposal** | **Agency (NIH, State, Foundation, Internal, Industry)** | **Date of Submission** | **Approximate Date of Review** | **Result of Review (Funded, Pending funding, Not funded, Pending review** | **NIH only**  **Priority Score/ %percentile, or date of review** | **UVa Direct Costs** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

* 1. **Unfunded Research Efforts (Active)**
  2. **Cross-Grounds Collaboration (grants, papers, or other collaborations with faculty from other departments or UVA schools)**

(Title, dates, % effort, direct costs {current year}, indirect costs {current year}); name of funding organization or publication)

Filiano AJ, Xu Y, **Tustison NJ**, Marsh RL, Baker W, Smirnov I, Overall CC, Gadani SP, Turner SD, Weng Z, Peerzade SN, Chen H, Lee KS, Scott MM, Beenhakker MP, Litvak V, and Kipnis J\*. Unexpected role of interferon-γ in regulating neuronal connectivity and social behaviour, *Nature*, 535(7612):425-9, Jul 2016. Cited 3 times; IF = 38.138; Rank 1 out of 63 multidisciplinary sciences.

* 1. **\_\_\_\_\_\_\_\_# of Patients Involved in Clinical Trials**
  2. **\_\_\_\_\_\_\_\_# of Investigator Initiated Clinical Trials**
  3. **\_\_\_\_\_\_\_\_# of Awarded Patents**
  4. **\_\_\_\_\_\_\_\_# of Submitted Patent Applications**
  5. **\_\_\_\_\_\_\_\_# of Disclosed Inventions**

1. **PRESENTATIONS/PUBLISHED ABSTRACTS AT MAJOR/SCIENTIFIC MEETINGS**
   1. **Peer-reviewed Scientific Oral Abstract Presentations between**

**April 1, 2016 – March 31, 2017 (i.e. RSNA, AUR)**

(Titles and co-authors)

* 1. **Peer-reviewed Posters or Electronic Presentations between**

**April 1, 2016 – March 31, 2017** (Titles and co-authors)

1. **Tustison N**, Avants B, Wang H, and Yassa M. Multi-atlas intensity and label fusion with supervised segmentation refinement for the parcellation of hippocampal subfields. In Proceedings of the 13th International Conference on Alzheimer's & Parkinson's Diseases (ADPD), Vienna, 2017.
2. Holbrook A, **Tustison N**, Roberts JM, Yassa M, Gillen D for the Alzheimer’s Disease Neuroimaging Initiative. Lateral entorhinal cortical thinning predicts cognitive decline in MCI and AD patients. In Proceedings of the 13th International Conference on Alzheimer's & Parkinson's Diseases (ADPD), Vienna, 2017.
3. **Tustison N**, Holbrook A, Avants B, Cook P, Stone J, Gillen D, and Yassa M. The ANTs longitudinal cortical thickness pipeline. In Proceedings of the 13th International Conference on Alzheimer's & Parkinson's Diseases (ADPD), Vienna, 2017.
4. Dane DM, Yilmaz C, Gyawali D, Ravikumar P, Estrera AS, Menon J, Nguyen K, **Tustison NJ**, Gee JC, and Hsia CCW. Effects of Inhaled Erythropoietin on Canine Post-pneumonectomy Compensatory Lung Growth. In Proceedings of Experimental Biology, Dallas, 2017.
5. Qing K, Mehrad B, Mugler JP, Ruppert K, Mata JF, **Tustison NJ**, Guan S, Shim YM, Ruset IC, Hersman FW, and Altes TA. Assessing Functional Changes in Lungs with Idiopathic Pulmonary Fibrosis using Hyperpolarized Xenon-129 MRI. In Proceedings of the 24th Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Singapore, 2016.
6. Qing K, Shim YM, **Tustison NJ**, Altes TA, Ruppert K, Mata JF, Mehrad B, Miller GW, Guan S, Ruset IC, Hersman FW, and Mugler JP. Hyperpolarized Xenon-129 MRI: A New Tool To Evaluate COPD. American Thoracic Society International Conference, May 2016.
   1. **Published Abstracts between April 1, 2016 – March 31, 2017**
   2. **Invited Lectures between April 1, 2016 – March 31, 2017**

(Please include both internal and external lectures and list specific talk titles and organization)

* 1. **Visiting Professorships between April 1, 2016 – March 31, 2017**

1. **\_\_\_\_\_\_\_ # OF CME CREDITS EARNED THIS ANNUAL PERIOD**

**(April 1, 2016-March 31, 2017)**

(Requirement: Please attach a detailed list of your CME credits to this document to include: course name, date, and # of CMEs. Specific lecture titles are NOT required.)

Contact Emily Guan if you require assistance.

1. **SCIENTIFIC PROGRAM COMMITTEES**

(ie. RSNA; **Include your role & note any committees you chair**)

2012-present SPIE Medical Imaging Conference Program Committee

1. **NATIONAL/SOCIETY/NIH COMMITTEES**

(**Include your role & note any committees you chair**)

1. **NIH STUDY SECTIONS**

(**Include your role & note any committees you chair**)

1. **SCHOOL OF MEDICINE AND/OR UVA COMMITTEES**

(**Include your role & note any committees you chair**)

1. **DEPARTMENT/DIVISION-LEVEL COMMITTEES**

*Note: Be sure to include education committees in this section.*

(**Include your role & note any committees you chair**)

1. **PARTICIPATION IN DEVELOPMENT PROGRAMS**

(i.e. Leadership in Academic Matters [LAM], Promotion & Tenure Sessions, listed department development or institutional lecture )

1. **OTHER FACTORS WHICH YOU FEEL SHOULD BE CONSIDERED**

(IE. Research equipment, consignments, undergraduate education, etc.)

**SECTION III. PATIENT CARE ACTIVITIES**

1. **EXPANSION OF CLINICAL SERVICES FOR WHICH YOU ARE RESPONSIBLE**
2. **NEW PROGRAMS**
3. **CURRENT CLINICAL RESPONSIBILITIES (% TIME)**
4. **MULTIDISCIPLINARY CLINICAL CONFERENCES, TUMOR BOARDS, OR CLINICAL ROUNDS**

**(ie. PICU)** (List name and frequency)

1. **PLEASE DESCRIBE YOUR PQI PROJECT FOR FY ’17. THEN, DESCRIBE WHAT PQI PROJECT YOU PLAN TO DO FOR FY ’18.**

**SECTION IV: TEACHING AND EDUCATIONAL ACTIVITIES**

(Include Basic Science, Practice of Medicine, Clerkship, Physical Diagnosis/Tutorials;

describe any new programs to which you have contributed.)

1. **MEDICAL STUDENTS AND/OR BASIC SCIENCE**

(lecture titles, course numbers, hours)

1. **RESIDENTS/FELLOWS**

(lecture titles)

1. **OTHER**

(Technologists, nurses, industry, insurance companies, etc. – include lecture titles;

not to include any department/division level education committee work in Section II J., above.)

1. **NEW EDUCATIONAL INITIATIVES DEVELOPED**
2. **MENTORING** (Describe projects)
3. **\_\_\_\_\_\_\_\_# of Pre-doctoral students mentored (lecture titles)**
4. **\_\_\_\_\_\_\_\_# of Doctoral/Post-doctoral Research students mentored (lecture titles)**
5. **\_\_\_\_\_\_\_\_\_# of Post-doctoral Fellows on training grants**
6. **\_\_\_\_\_\_\_\_\_# of Post-doctoral Fellows on funded fellowships**
7. **\_\_\_\_\_\_\_\_\_# of Post-doctoral Fellows on department funds**
8. **\_\_\_\_\_\_\_\_# of Post-doctoral Fellows in School of Medicine for more than 3 years**
9. **\_\_\_\_\_\_\_\_ Total # of Post-doctoral Fellows**
10. **\_\_\_\_\_\_\_\_# of MSTP (Medical Scientist Training Program) Students (list projects)**
11. **GRADUATE STUDENT CONTACT HOURS**

(Mentorships, dissertation committees, etc.)

1. **NEW COURSES/NEW CONFERENCES**

(Lecture titles, CME provided)

1. **OTHER CONTRIBUTIONS**

(ie. Miscellaneous activities that have enhanced the growth, improvement and visibility of the department, such as volunteer work at the Free Clinic, Day of Caring, community service, Albemarle Medical Society, etc. Be sure to list titles and frequency.)

**SECTION V: RECOGNITION, HONORS AND AWARDS**

(Include major and internal – i.e. positive comments and compliments from patients, staff, referring physicians, etc.)

1. **NATIONAL/INTERNATIONAL HONORS AND AWARDS/RECOGNITION**
2. **INSTITUTIONAL HONORS/AWARDS**
3. **DEPARTMENTAL HONORS/AWARDS**
4. **INTERNAL RECOGNITION**

(i.e. letters of recognition from patients, referring physicians, etc.)

**SECTION VI: LEAVE TIME AWAY FROM THE DEPARTMENT**

1. **\_\_\_\_\_\_ # of academic days assigned**

(Please list an exact number, not “one per week worked” etc. – Data will also be collected via Qgenda.)

1. **\_\_\_\_\_\_ # of meeting/professional development days used**
2. **\_\_\_\_\_\_ # of annual leave days used**
3. **\_\_\_\_\_\_Total # of days away from the department**

**SECTION VII: PERSONAL CAREER GOALS**

1. **Taking stock of your career and projecting a view into the future, what do you want to accomplish over the next one to three years? Five years?**
2. **How can the Department help you succeed in achieving these objectives?**
3. **In the next year, what specific steps will you take toward realizing your goals?**
4. **What objective criteria will you use to monitor your progress over the next year?**
5. **In five years, how will you measure your success?**
6. **Additional comments?**

**SECTION VIII: COMMENTS FROM THE CHAIR**

**SECTION IX ACKNOWLEDGMENT**

Your signature indicates your acknowledgement of having discussed your annual review and teaching evaluations with the Department Chair.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: Faculty Member Date of Review

***(Leave blank until your meeting)***

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: Department Chair Date of Review